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Story
Of
Our
Northern
Treasureland





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The search for beaver prefaced the opening of the Canadian and American west — so the trappers were the first white men to see that vast area. In the North it wasn't much different. The Russians established their trading posts on the Alaskan coast, and the search for sea otter and seal skins brought the first permanent white settlements to this land.

Then, just as in the mountain West, gold caught the imaginations of men. California knew its gold rush — and the Forty-niners. The great rush of '98 brought adventurers to Alaska — men who had to adapt themselves to the Indian's way of travel, the dog sled and the skin boat.

Still the permanent settlements clung to the warmer climate of the coast line, where fishing brought a means of livelihood to countless men; where the true wealth of Alaska finally came to the attention of the world. And the gold dredges moved onto the creeks, replacing the pans and the hard toil of digging off the overburden and getting down to bedrock, where the nuggets and dust often buttered the cracks in the ancient granite.

This was the Alaska that writers romanticized, that homebound people all over the world knew. The great sledge dogs and powerful men of Jack London; the connivery recounted by Rex Beach; the glory of the land — and its loneliness, sung by Robert Service!

These were the bards of Alaska, the men who knew it in the spring time of their world, who formed the image that made the name of the state itself a challenge to adventurers everywhere!

The Trespasser



CHURCHILL ETTINGER

THE ALASKA BOOK

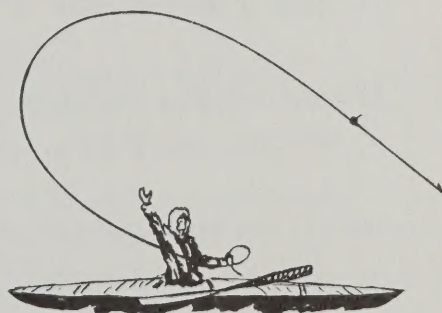
Story Of Our Northern Treasureland

INCLUDING SELECTIONS FROM

ALASKA: The Forty-ninth State
By Ernest Gruening
From
BRITANNICA BOOK OF THE YEAR
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BRITANNICA, INC.

ALASKA SPORTSMAN
Narrating experiences of pioneers,
sportsmen, prospectors, settlers and
students from the early years of its
history to the present.

COLOR BY BROWN & BIGELOW TALIO-CROME®
PROCESS COLOR BY COURTESY THE ALASKA SPORTSMAN



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ALASKA: The Forty-ninth State

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INTRODUCTION

America's destiny has always seemed nearest to realization when the restless souls among us pushed across new horizons. When the Old West was rolled into a map and the flood of migration curled back upon itself at the Pacific, America reached for new frontiers. Frontiers of invention, of science, of markets—frontiers of the mind. But behind all this mental restlessness and searching lies the yearning for a physical frontier—for an area where stubborn independence can cope with the problems of climate, terrain and space to achieve some of the fundamental liberties that a man holds only because he earns them.

That is why our interest in our Forty-ninth state is so great today. Alaska is the last American state where a man can travel five hundred miles in a straight line and never cross a barb-wire fence. It is almost the last land where hard, physical labor can bring great rewards, if coupled with brains and foresight. It is almost the last land where a man is wholly judged by what he is, by what he does. It is a land of fundamentals.

This book is made up largely of articles from *Alaska Sportsman*, the magazine that has been the printed spokesman of our new state for more than a quarter-century. The articles are written by experts in their fields. If there is emphasis on the Gold Rush it is because your true sourdough—and even your starry-eyed cheechako—still expects to stumble on a quartz vein with free milling ore, or a glacial creek winding its way between gravel banks where nuggets and dust can be panned from the grass roots down.

If there are many stories of seals and bears and salmon it is because these animals play so big a part in the economy of the country — in the life of its diverse native people, in the adventures of the white man.

The statistical information is the most authoritative yet assembled in one place — from the *Year Book of the Encyclopaedia Britannica*. The paintings are by Oscar Strobel, best-known of Arizona artists, who spent much time in Alaska as he worked on this picture assignment. They are reproduced in Talio-Crome®, an exclusive Brown & Bigelow color printing process.

Alaska is truly the last frontier. The dog team and the prospector are still part of the active scene. Some day they may be stereotypes, just as the broncho and the TV town marshal are stereotypes of the Wild West that passed before this century began.

But that time will not come until the empty spaces are filled, until Alaska's vast timber, oil and mineral resources are utilized; until dams provide greatly expanded power, until some plant geneticist breeds a grain that will ripen in the immense plains of the Alaskan interior.

Until then, this is Alaska — challenging, welcoming, growing.

John C. Frohlicher

PUBLISHER'S COMMENTARY AND ACKNOWLEDGMENTS

"If you just had an up-to-date, interesting book that tells the story of Alaska, I could tell you hundreds of people that would be interested."

That statement, made by a customer to Brown & Bigelow department manager, Pierre B. Marien, sparked the determination to publish such a book. Books were nothing new to "Pete" Marien and his firm. For many years Brown & Bigelow has produced, in Mission leather binding, limited editions of certain volumes. The subject matter of the books chosen has varied, but in every case timeliness, accuracy, interest, entertainment value, and quality and number of illustrations have been important criteria in the final choice. On many occasions J. G. Ferguson Publishing Company has been proud to have helped in the final choice.

When "Pete", who had originated the idea of leather bound books and still headed up their sale, had that challenge tossed at him, he immediately went to work. Just what books were available on Alaska? He could not locate any that came up to the usual Brown & Bigelow quality standard.

As luck would have it, a copy of Alaska Sportsman given by the same customer who had requested the book, turned up in the papers, memoranda, and miscellaneous magazines that "Pete" had accumulated during his trip. In browsing through the pages he became excited with the idea that a book made up largely of the best articles from back issues of this fascinating publication would be just the answer to the need for an Alaska book.

This proved to be a happy thought because the wonderful cooperation of the publishers of Alaska Sportsman, Robert A. Henning and Robert DeArmond, and Associate Editor Ethel Dassow could not have been more complete. We are likewise indebted to Emery F. Tobin, former editor and publisher of Alaska Sportsman who has been generous with his efforts to make this a book of lasting value. By having all back issues and files available it was possible to sift through hundreds of articles to arrive at a final selection we believe is truly representative of the state.

The story of Alaska is as varied as the area is huge. It is natural to think of the gold rush, Eskimos, salmon, furs, the Brown Bear, and Mount McKinley as the story of this north country. Yet the diversity of terrain, climate, resources and future potential make Alaska one of the most fascinating and strategic areas of the world.

You will find that the story of "Alaska the 49th State" is skillfully told in the opening chapters of this anthology. Through the generous cooperation of the publishers of the Encyclopaedia Britannica and the author, the Honorable Ernest Gruening, United States Senator from Alaska, we are privileged to reprint this finest of factual surveys of our new and largest state. Originally it appeared as the lead article in the 1959 Britannica Book of the Year.

The articles from Alaska Sportsman (Box 1271 Juneau, Alaska) were written by more than 50 authors relating either their own personal experiences or those of others, about early history, of hunting, fishing, prospecting, and of homesteading, Eskimo life and future prospects for development. Some stories are selected just because we feel that they are enjoyable and representative of life in the north.

We are indebted to the Kiwanis Magazine for their courtesy in permitting the reproduction of Alaska's Bering Sea Frontier by Ted Bank II.

The photographs and drawings are the combined work of many photographers over at least three score years. The natural color photographs were originally produced for the Statehood Issue of Alaska Sportsman by R. R. Donnelley and Sons, Chicago. The Talio Crome® color reproductions were originally produced by Brown & Bigelow for the late Charles Ward's personal calendar. We have been fortunate in having this firm produce them again in all their majestic color.

Just as honesty, friendliness, wholesomeness, and fun characterizes Alaskans and their way of life, so also has the creation of this book been an experience of fun and friendly 'togetherness'."

J. G. Ferguson Publishing Company

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1959

BRITANNICA
BOOK OF THE YEAR

FEATURE ARTICLE

ALASKA : The Forty-ninth State

BY ERNEST GRUENING

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ALASKA, The Forty-ninth State

By ERNEST GRUENING

ALASKA became the 49th state of the union when Pres. Dwight D. Eisenhower on July 7, 1958, signed H.R. 7999, introduced early in the 85th congress by Rep. Leo W. O'Brien of New York. The bill had passed the house of representatives on May 28 by a vote of 208 to 166, and the senate on June 30, by 64 to 20. One slight formality remained to make statehood an accomplished fact, namely the ratification—at the primary election on August 25, called to nominate state officials—by the people of Alaska of three propositions: Whether they agreed to the boundaries of the state, which are the same as those of the territory; whether they consented to the conditions surrounding the federal land grants; whether they desired Alaska's immediate admission as a state. Failure to approve any one of the three would have voided statehood. As had been expected, however, all three provisions were ratified by large majorities, more than five to one.

The support of the statehood bill tended to be bipartisan, especially after the two senators elected under the Alaska-Tennessee plan had agreed to run for election again in the event of statehood—a concession demanded by various Republicans who were unwilling to seat the two Democrats elected without another electoral contest in Alaska. In the house 117 Democrats and 91 Republicans supported the bill while 81 Democrats and 85 Republicans opposed it. In the senate the situation was reversed: 33 Republicans and 31 Democrats supported the bill, 7 Republicans and 13 Democrats opposed it. In both houses the Democratic leadership strongly supported the legislation. In the house the Republican leadership opposed it, an opposition offset by the activity of the secretary of the interior, Fred A. Seaton, who had favoured statehood since his service in the senate six years earlier. In the senate, the Republican leadership for a time was determined to associate both the Alaskan and Hawaiian statehood bills, but finally yielded to supporting Alaska unconditionally. President Eisenhower was lukewarm in his support.

ERNEST GRUENING was governor of Alaska for 13 years, from 1939 to 1953. He continued thereafter to make his home in Alaska, near Juneau, but spent considerable time in Washington, D.C., in a quest to have Alaska admitted to the Union as a State. In 1956 the Territory elected an official delegation, comprising two senators and one representative, to appear before Congress and press the statehood issue. To help further their cause, Senator Gruening and his two associates voluntarily agreed to stand for election again in the event Alaska was made a State. In November 1958 the people of Alaska, for the second time, elected Gruening United States senator.

The Editors of the *Britannica Book of the Year* welcome in the feature articles the expression of the personal views of men qualified to write on matters of great current importance. Their views, of course, are not necessarily those of the Editors.

The passage of the bill developed some unprecedented features. The bill had been reported favourably by the house committee on interior and insular affairs on June 23, 1957. Its sponsors, however, were unable to secure a "rule" from the house rules committee during the next 11 months, a rule being a parliamentary prerequisite for bringing a bill onto the floor of the house for debate. This obstacle arose chiefly from the frankly acknowledged opposition of the committee chairman, Rep. Howard Smith of Virginia, and if not removed would have resulted in the death of this ruleless legislation. However, a rarely used alternative, under which a bill conferring statehood had a privileged character and could be brought up by a simple majority vote, was successfully invoked, and Speaker Sam Rayburn ruled against all the points of order raised by the bill's opponents.

The arguments advanced by the opponents, voiced in previous Alaska statehood debates, stressed the relatively small population of Alaska and its noncontiguity, this being the first time a state not touching other land owned by the United States would be admitted. However, the opposition centred less than in previous debates on these timeworn arguments and more in attacks on the bill itself. In the house it was denounced as a "giveaway" of national resources; in the senate the constitutionality of several provisions was challenged.

Because of the fear that differences in the senate and house bills might bring about defeat through parliamentary maneuvering by opponents, the house bill was accepted by the senate instead of its own previously committee-reported S. 49. By the same token, supporters of the legislation determined to defeat any amendments which would have required the bill's being returned to the house for approval and were successful in keeping it intact.

The principal provisions of the statehood act were:

1. The constitution drafted by Alaska's constitutional convention in 1956 was ratified. Apart from the two United States senators, one representative and a 60-member Alaska legislature (20 state senators and 40 state representatives), it called for the election of only two officials, the governor and the secretary of state. All other offices were to be appointive by the governor subject to confirmation by the legislature. The governor was thus given the widest powers, but like other elective officials was subject to recall.

2. The state might select over a 25-year period 102,550,000 acres of unappropriated and unreserved lands, plus 400,000 acres within the national forests and 400,000 acres of public land adjacent to communities, a total land grant of 27% of Alaska's entire area.

3. Federal control of Alaska's fisheries and wildlife would be transferred to the state when the secretary of the interior certified that adequate provision had been made for the adminis-

tration, management and conservation of those resources "in the broad national interest." This provision was adopted over the objection of Alaska's delegate who was voicing almost unanimous Alaskan sentiment against any delay in the transfer to Alaska's management of these natural resources.

4. The president was given authority to make national security withdrawals within an area slightly less than half of Alaska in the sparsely inhabited northern and western portions of Alaska.

When the vote was announced in the senate, the galleries, disregarding senate rules, burst into a storm of applause, a reflection of the wide popularity of the Alaska statehood cause. That popularity had been evidenced in scores of congressional district polls and in the more than 12 to 1 favourable nationwide Gallup poll. News of the passage of the bill evoked widespread rejoicing and celebration throughout Alaska.

Early Political History

The long struggle toward statehood for Alaska had been foreshadowed in the treaty of cession signed on March 30, 1867, by U.S. Secretary of State William H. Seward and Baron Edouard Stoeckl, who represented Czar Alexander II of Russia. By this treaty a territory that had been known as Russian America, with an area of 586,400 square miles, was ceded to the United States. The treaty was ratified in the United States senate by the required two-thirds vote with only one vote to spare. The purchase price of \$7,200,000, or less than two cents an acre, was one of the great real-estate bargains of history.

But it was not so considered by a substantial number of those who were called upon to pay the bill. When the appropriation for it came up in the house of representatives the following year, the purchase was denounced as a reckless waste of taxpayers' money. In congressional debate and in newspaper editorials Alaska was pictured as a barren and uninhabitable waste, a land of ice and snow—a misconception which persists to this day and has handicapped efforts to promote settlement and development. Of the various depreciatory epithets applied to Alaska at that time—Icebergia, Polaria, Walrussia, Seward's Icebox—one has persisted beyond all others: "Seward's Folly."

Although generations afterward American public opinion would acclaim Seward's vision, it did not at that time. However, as the United States had already occupied Alaska and had raised the Stars and Stripes at Sitka, the ancient Russian capital, on October 18, 1867, the embarrassment adverse action would have caused brought forth the required appropriation.

The antagonism to the purchase was, however, revealed in

SIGNING THE TREATY OF CESSION, from a painting. Baron Edouard Stoeckl, representing Alexander II of Russia, is shown standing at right. U.S. Secretary of State William H. Seward is seated at left



Alaska's subsequent history. Although the treaty had pledged that "the inhabitants of the ceded territory . . . shall be admitted to the enjoyment of all the rights, advantages and immunities of citizens of the United States," no policies or actions to validate that pledge followed. The federal government proceeded to forget Alaska. Engaged during the next generation in spanning the continent and settling the West, it consigned its great northwestern domain to oblivion.

During the first 17 years congress enacted just two measures dealing with Alaska. One extended the commerce and navigation laws and provided a collector of customs who for more than a decade and a half was the highest legally constituted government official there. The other act turned over the rich fur seal fisheries of the Pribilof Islands to the secretary of the treasury, who leased them to a private company in San Francisco.

During those 17 years no prospector could stake a mining claim in Alaska; no settler could secure title to the log cabin he hewed from the virgin forest; no property could be legally acquired, transferred or deeded; no marriage could be celebrated; no injured party could secure redress for grievances unless he took the matter into his own hands; crime could not be punished.

Seventeen years may not seem long in the pageant of history. But they spanned four presidential administrations and eight congresses, which in that era averaged three sessions. Yet more than a score of congressional sessions came and went without extending to Alaska a vestige of government. Bills to that end were introduced, but never processed to enactment.

Such authority as there was, was exercised without legal sanction by the general commanding the United States troops stationed at Sitka. And when, in 1877, he and his men were removed to put down an uprising of the Nez Percé Indians in northwestern United States, not even that semblance of authority remained.

Fear of an Indian uprising was contagious and the white inhabitants of Sitka requested their government to station a gunboat in Alaskan waters to deter any possible uprisers and to furnish such protection as might be needed. These requests went unheeded, and finally, in alarm, an appeal was made to the Canadian authorities, who promptly sent a warship from Victoria. The incident was typical of the indifference with which the federal government viewed its Alaska citizens and prophetic of the neglect they would experience for many decades. When the U.S. sloop-of-war "Jamestown" finally arrived, its captain and his successors for the next four years became *de facto*, and without any legal authority whatever, the rulers of Alaska.

In 1884, in response to the proddings of successive presidential messages, congress gave Alaska its first body of law. The first Organic act which made Alaska a civil and judicial district provided a governor, a federal district judge and four lesser judges called commissioners, extended to it the mining laws and appropriated \$25,000 for education under the supervision of the secretary of the interior. It extended the general laws of the state of Oregon to Alaska. However, it specifically forbade the application of the United States land laws, the creation of counties, the establishment of the office of delegate to congress and the establishment of a legislature.

The act of 1884, drawn with little knowledge or concern for Alaska, proved totally unworkable. Land acquisition, and hence settlement, was impossible under it. The Oregon code contained frequent references to county functions and county officials; school districts, for example, were to be established by county commissioners. But as Alaska had been specifically forbidden to have counties, it could have no county commissioners and hence no school districts. The Oregon code provided that to serve on a jury one had to be a taxpayer, but as congress had provided no

taxation for Alaska, it could have no juries—grand or petit. Thus the administration of justice under established American procedures was precluded. The governor was ordered to report to the president and congress concerning the resources, industries and population of his vast domain and particularly concerning the fur seal operations of the Pribilof Islands, about 1,500 miles from the seat of government at Sitka. But he was provided with no transportation nor with means of securing it.

The act was worthless. For the next 14 years the annual reports and messages—to the president, to the secretary of the interior, to members of congress—of five successive governors said so. Individual citizens added their complaints. They pleaded for the enactment of some workable legislation, in vain. No heed was given. No attention was paid to these proper requests until gold was discovered in the Klondike in 1896.

The Klondike river is a tributary of the mighty Yukon, just across the Alaska-Canada border in Canada's Yukon territory. When the news hit the front pages of American newspapers a year later, the great gold rush began. About 60,000 Americans embarked from west coast ports, northward bound. The various routes to the gold diggings lay through Alaska. Within a year other gold strikes, on the tundra back of Nome and on its beach lapped by the Bering sea, and in the Tanana valley, transformed the Klondike into an Alaskan episode.

When these prospectors found an utter insufficiency of law to help them achieve their objectives, they began writing caustic letters to their senators and representatives. They were voters in their home districts and therefore their letters received attention. Then and only then, at the turn of the century, was there a beginning of legislation for Alaska.

But this legislation, however well intentioned, was drafted by men 5,000 miles away who were without firsthand knowledge of conditions in Alaska, and much of it was unsuitable. So the demand for someone in the U.S. congress who could speak authoritatively for Alaska, for a delegate such as every territory had secured from its beginnings, was renewed. But not until 1906 was the concession of a voteless delegate made to Alaska, and not until 1912 was the territory given a legislature. It had required 45 years, from 1867 to 1912, to grant to Alaskans that minimum of self-government which Americans consider their due and which all previous American territories had enjoyed.

Limited Self Government

The Organic act of 1912, while a great improvement over its unworkable predecessor, was still notable chiefly for the things it forbade Alaskans to do. Its restrictive provisions originated with stateside interests which had been exploiting Alaska's bountiful fishery and fur resources for a quarter of a century and which preferred little or no government in Alaska.

Their high-powered lobbies in the national capital had effectively delayed self-government. They now managed to make Alaska's second Organic act the least generous charter ever given an American territory. It denied Alaska the control and management of its fisheries and wildlife, a deprivation visited on no other territory. Even the more recently annexed territories of Hawaii and Puerto Rico had been granted this right. Alaskans, having witnessed the annihilation of the once abundant sea otter, most valuable of the fur bearers, the near extinction of the Pribilof seal herd, the slaughter of the walrus for its ivory in disregard of the Eskimos' need for its flesh and hide, and the beginning of salmon depletion, protested against this discrimination, but in vain. They barely secured the right to tax the fisheries, winning this lone victory over the canned salmon lobby.

The act of 1912 forbade the legislature of Alaska to enact any basic land laws—a serious defect in an area virtually 100% public domain which was crying for settlement. It retained the



KLONDIKE GOLD PROSPECTORS standing by their buried camp after a snow slide in Chilkoot pass (near Skagway) April 3, 1898

judiciary under federal control, at the same time making no provision for salaries to the lower court judges, the U.S. commissioners, who were obliged to subsist on the fees they could collect from the public. County government was again prohibited without prior consent of congress. The legislature was specifically ordered not to modify an act of congress passed 26 years earlier, when nine other areas subsequently to become states were still territories, prohibiting territorial legislatures from passing any "local or special laws" in about 24 categories. There were numerous other restrictions.

Even the composition of the legislature followed no approved pattern. The four judicial districts, created earlier to enable the four federal district judges to "get around" their vast districts once a year, using maritime and river transportation in summer and dog teams in winter, were made the electoral districts. Two senators and four representatives from each of these districts comprised the legislature. Thus for the first time in American legislative history, there were senators and representatives who represented exactly the same districts, the only distinction being that senators served four years while representatives served two. These areas had no population base and no political basis, and through them disproportionate representation was established.

The first legislature, meeting in 1913, set high standards of performance. Its first act enfranchised women, thus anticipating for Alaska by seven years what the 19th amendment would in 1920 provide for the nation. But when it had erected a structure of territorial government and found vast fields into which entry had been forbidden, the legislature memorialized congress to legislate in them. The legislators' pleas were directed at the larger objective of developing Alaska, of making settlement possible. They asked congress:

To revise the land laws (which had been enacted for homesteading 60 years earlier in the agricultural West) to make them suitable for Alaska.

To cease making reservations and withdrawals of land.

To transfer to Alaska management of the fisheries, which under federal control were being inadequately protected against depletion.

To appropriate for highway construction, a logical request in a territory which was totally public domain.

To pay the federal lower court judges a salary.

There was much more, all reasonable and scarcely controversial. Yet not a single one of these requests was appreciably honoured by congress during the next 40 years, although they were unceasingly reiterated by subsequent legislatures and sought through legislation by Alaska's successive voteless delegates.

Chafed by the stringent limitations of the Organic act, Alaskans began to agitate for "full territorial government," to bring

to Alaska the fuller measure of autonomy accorded other territories which, with the admission of New Mexico and Arizona in 1912, had ceased to exist on the continent, and to Hawaii 12 years earlier, only two years after its annexation. Those desires were consistently opposed by the same interests that had held back self-government for Alaska and had inspired the limitations in the Organic act of 1912.

Aroused by the opposition of these interests which he had endured since his first election in 1908, Alaska's delegate in congress, James Wickersham, a Republican, previously a federal district judge and thereafter a vigorous battler in the legislative arena, declared: "Full territorial government for Alaska will never be accomplished as long as the bureau and the Alaska fish trust can prevent it." The "bureau" was the bureau of fisheries of the department of commerce which then and thereafter worked closely with the fishing interests which it was supposed to regulate. "The power thus sought by the people will be obtained by statehood more certainly than in any other way," continued Wickersham.

While he realized that statehood might prove even more difficult of attainment than "full territorial government," he deemed it the more desirable objective, and the only way in which the pledge in the treaty of cession could be fulfilled. So on the 49th anniversary of the signing of the treaty, March 30, 1916, he introduced a statehood bill. It was the first Alaskan statehood bill, the forerunner of many more to come.

Alaska's political destiny had already been determined judicially. In a series of decisions, collectively known as the "insular cases," rendered in the 20th century's first decade, the United States supreme court clarified the political statuses of the overseas acquisitions, which had been vastly augmented by the war with Spain. The court distinguished between Alaska and Hawaii, as "incorporated territories," and the Philippines, Puerto Rico, Guam, Samoa, etc., as "possessions." Congress could dispose of the second category by granting them independence, as it did to the Philippines in 1946, or by giving them a special status as with Puerto Rico in 1952. But Alaska and Hawaii, being "incorporated" into the United States, were "inchoate states" and were confronted therefore with only the two alternatives of remaining indefinitely in their territorial status or of being promoted to the equality of statehood. The decision regarding Alaska was based on the ratification of the treaty of cession by *both* houses of congress, plus extension to Alaska of the laws relating to customs, commerce and navigation in the years 1867-1869. Alaska was thereby made a "territory" retroactively, instead of a mere "district" which it had been officially considered to be up to that time. The insular cases likewise carried with them the automatic application to Alaska of all federal taxation from which the "possessions" were exempt, a provision that was to become significant with the enactment of the federal income tax in 1913.

From Uninterest to Discrimination

The efforts to increase Alaskan autonomy piecemeal continued. One would suppose that having so severely limited Alaska's powers of self-government, congress would gradually extend them. But for the next 45 years every effort to that end by four successive Alaskan delegates, all men of ability and devotion, failed. Indeed the uninterestedness and restrictiveness of congressional attitude and performance toward Alaska, during that territory's first 45 years under the American flag, was worsened in its second 45 years by downright discrimination. This embraced many fields, and was most injurious in the realms of transportation.

Highways.—The first serious congressional study of Alaska, made in 1903 by four U.S. senators, reported that there was not

a single wagon road in Alaska over which vehicles could be drawn, summer or winter. The report condemned the federal government's inaction. A slight beginning of road construction was made in 1905 under the war department, using both federal funds and Alaskan moneys derived from congressionally imposed licence taxes. About eight years later a low-grade wagon road, 370 miles long, connecting the Pacific coast with the interior (from Valdez to Fairbanks) was completed. Only a few other short stubs of road existed.

Then, in 1916, congress passed the Federal Aid Highway act. This highly important legislation coincided with the development of the "horseless carriage" into a reasonably well-functioning and generally accepted instrument of locomotion. Congress realized that if the automobile were to be made widely useful as a new means of transportation, the nation would need a uniform system of highways of a fairly high standard. Congress further reasoned that that objective would require joint federal and state enterprise, for if left wholly to the states, as it had been, a wide disparity of road standards would follow. A fine paved highway in a progressive or wealthy state might, across the next state boundary, deteriorate into an extended dust heap in dry weather and a mud-puddle in wet. So the Federal Aid Highway act provided for matching funds: every state received not less than one dollar of federal funds for every dollar of state funds for highways. But the standards were set by a federal agency, the bureau of public roads.

However, the western states, in which large areas remained in public domain and hence were not subject to taxation, received a larger share, that additional share being calculated on a complex formula in which the state's total area, the proportion of public domain, the population and the existing road mileage were figured. Alaska was denied participation in the act although it was subject to all federal taxation, including the federal income tax which was enacted three years earlier.

For the next 40 years, Alaska's voteless delegate introduced legislation in every session of congress to include Alaska in the Federal Aid Highway act, but the bills never even got out of committee. Meanwhile congress was biennially appropriating tens of millions, then hundreds of millions, then billions of dollars for this program from which Alaska was excluded. It is significant that both Puerto Rico, which pays no federal taxes whatever, and Hawaii were included under the Federal Highway act.

In 1954 a further discrimination against Alaska was in the making. President Eisenhower presented a new additional super-highway program to congress. Its declared purpose was twofold: To improve the continental highway system and care for the increasing traffic; and to facilitate the evacuation of urban populations in the event of atomic attack. The president proposed that this multibillion dollar program be financed by long-term bonding. Congress agreed as to the desirability of the program, but differed with the president on the method of financing. It believed that it should not burden posterity for benefits which the current generation would enjoy. It proposed, instead, a "pay-as-you-go" method of financing with additional taxes on trucks, trailers, tires and gasoline. But in one respect the president and congress agreed, namely that Alaska would be *excluded* from the benefits of the program, but *included* in the taxation, and in that form the bill passed. In consequence every time an Alaskan purchased gasoline for his car he paid one cent a gallon to build superhighways in every state from Alabama to Wyoming—but not in Alaska. Alaskans likewise paid the additional three cents a pound on tires.

A minor diminution in the discrimination took place, however, after the passage of the superhighway legislation which Alaskans denounced as "taxation without representation on top of tax-

tion without representation and without benefits." An amendment to the Federal Aid Highway act was introduced in the U.S. senate in 1956 by which Alaska would be included in the old federal aid program but its share reduced by calculating only one-half of Alaska's area in the formula. Yet even this was found to be too generous a proposal and a further amendment reduced Alaska's participation to a calculation based on one-third of its area. In exchange Alaska was to be permitted to use both federal and its own funds for maintenance as well as for construction, a provision not applicable elsewhere.

In consequence of this unique situation Alaska has a negligible highway system—about 3,500 miles in an area one-fifth as large as the United States. Such highways as it has, came principally in response to the needs of World War II. New construction before and since the war has been insignificant.

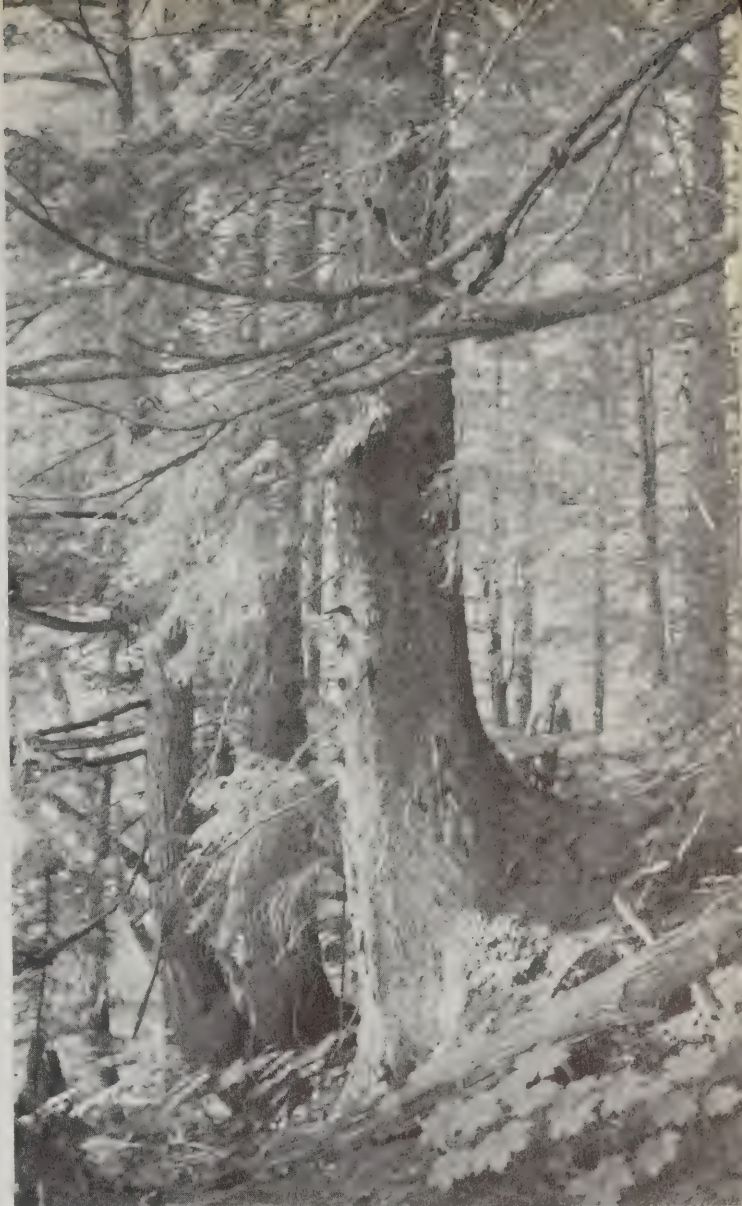
Alaskans contrast this treatment not merely with that afforded the 48 states but with that lavished on foreign countries. While Alaskans were protesting against their exclusion from the super-highway program, they noted President Eisenhower's request of congress to raise the existing appropriation for the Central American portion of the Inter-American highway from \$5,000,000 to \$75,000,000, which was promptly granted. The justification was that it would help the economy of the countries through which it passed, Guatemala, Honduras, Salvador, Costa Rica, Nicaragua and Panamá, and that it would strengthen hemispheric defense.

Alaskans, who were paying their share of this gift (to which additional millions were added in 1958), felt that their economy was no less in need of support and that their role in hemispheric defense was patently more important.

Maritime Transportation.—Until 1940, when commercial air service first linked the states and Alaska, maritime shipping was the sole means of transportation between them. Referred to as "Alaska's lifeline," it continues to be the chief carrier of freight.

Thirty-nine years ago congress enacted what is known officially as the Merchant Marine act of 1920. In Alaska it became known as the Jones act, after its sponsor, Sen. Wesley L. Jones of the state of Washington. The act made certain modifications in existing maritime law. It provided that goods shipped across the continent and over the oceans beyond could use interchangeably domestic or foreign carriers—foreign meaning principally Canadian. For instance, freight shipped from the Atlantic seaboard to the orient could travel westward on either United States or Canadian railroads or partly on either, and from a west coast port across the Pacific in either U.S. or foreign bottoms. But in the heart of this provision were inserted the words "excluding Alaska," which meant that of all areas, foreign or domestic, Alaska alone was excluded from the benefits of this legislation. Freight destined for Alaska therefore had to be shipped to west coast ports on U.S. railroads and thence to Alaska in U.S. ships. Senator Jones's act served to favour some of his constituents in his home city of Seattle, but at the expense, the heavy expense, of all Alaskans.

The immediate result was to put several Alaskan budding enterprises out of business. A new plant near Juneau was processing Sitka spruce, one of the abundant woods in the surrounding Tongass National forest used in manufacture of small airplanes. The enterpriser was paying his stumpage fees to the forest service, cutting the spruce to required lengths and shipping it through the port of Vancouver to a manufacturer in the middle west. His shipping rate was \$5 a thousand board feet. The Jones act compelled him to ship through Seattle. Thereafter the shipping costs were \$11 per thousand board feet plus some additional handling charges, which totaled more than his profit, and he was forced to close his business. Other infant undertakings met the same fate and still others were prevented from starting.



SPRUCE AND HEMLOCK in a forest of southeastern Alaska. Development of the lumber industry was hindered by stringent transportation costs imposed on Alaska by the Jones act and rail tariffs

The fifth Alaska legislature, meeting in 1921, deemed this legislation a violation of the commerce clause of the constitution, which provides that "no preference shall be given by any regulation of commerce or revenue to the ports of one state over those of another," and ordered the territorial attorney general to take the matter to court. Ultimately the case came to the supreme court of the United States.

In his argument against Alaska's plea, Solicitor General James M. Beck concluded:

"If the Fathers had anticipated the control of the United States over the far-distant Philippine Islands, would they, whose concern was the reserved rights of the States, have considered for a moment that any special privilege which the interests of the United States might require for the ports of entry of the several states should by compulsion be extended to the ports of entry of the colonial dependencies living in a different civilization . . . ?"

Justice James C. McReynolds, rendering the opinion for the court, declared: "The Act does give preference to ports of the states over those of the Territory . . ." but that the court could "find nothing in the Constitution itself or its history which impels the conclusion that it was intended to deprive Congress of the power so to act."

Thus the highest court in the land, over whose portals is

chiseled in marble the legend "Equal Justice Under Law," decided that it was legal and proper to discriminate against a territory.

As a result of the Seattle steamship monopoly established by the Jones act, freight rates to and from Alaska continued to soar. In addition, handling charges from railroad terminus to dock and wharfage in Seattle helped make shipping costs to Alaska five times as high as for goods consigned to other points in the Pacific. Statehood automatically voided this discrimination, which had contributed so greatly to the high cost of living in Alaska and its retarding effect on development and settlement.

Railway Freight Rates.—A corresponding discrimination against Alaska existed on the railways of the United States, which charged higher rates on the intracontinental rail haul for goods consigned to Alaska than to any other overseas destination. About the turn of the century, U.S. railroads began developing so-called "export-import" tariffs which provided reductions in the railway rate portion of the joint rail and maritime charges. Gradually the overseas areas which benefited by these lower export-import rates were enlarged so that they came to include every area bordering on the Pacific, except Alaska. In every instance the rail rate from the point of origin within the states to the port of exit, Seattle, was higher—for the identical article and identical service—if the tag showed it to be an Alaskan shipment than if it was bound for the west coast of Mexico or South America, or for Hawaii, Japan or Australia. In some instances the cost to Alaskans was more than double that to all others. For instance, on household appliances from a plant at Newton, Iowa, the rate to Seattle for Alaska shipments was \$3.80 per hundred-weight or 140% more than for goods shipped elsewhere in the Pacific, on which it was \$1.58.

Alaskans, through a territorial government agency, the Alaskan Development board, vainly sought relief by appeal to the railroads. In the middle 1950s they felt encouraged by enlisting the aid of a federal agency, the General Services administration. Its concern was not primarily for Alaskans as such, but because the federal government itself was being charged the far higher domestic rates on its own commodities, such as building materials destined for the military bases near Anchorage and Fairbanks. The General Services administration, likewise unsuccessful in persuading the railroads to abate this discrimination, started a formal proceeding before the Interstate Commerce commission. The brief opened with the question:

"Is it lawful under the Interstate Commerce Act for the railroads of the United States to charge for transportation services rendered within the United States higher rates when the overseas destination is Alaska?"

The same question, of course, applied to movement of freight coming from Alaska. In June 1957, the Interstate Commerce commission rejected the General Services administration's plea.

The cost of living in Alaska compared with that in the District of Columbia was reported by the Civil Service commission in January 1958 to be 41.7% higher in Juneau, 56.7% higher in Anchorage, and 66.8% higher in Fairbanks. These costs, roughly proportional to the distance from Seattle, were still higher at greater distances from these principal centres of population.

While statehood did not automatically remove this discrimination, Alaskans were convinced that given the two senators and a representative with a vote in congress, it would not long persist.

Thus in three major fields of transportation, over highways, sea lanes and railways, Alaskans were victims of gross discriminations imposed by distant federal agencies for the benefit of stateside interests whose power rested on their possession of the franchise. That, to Alaskans, was colonialism.

Air Transportation.—Handicapped in these older and longer established means of transportation, Alaskans turned early to

aviation. They are the "flyingest" of all Americans, about 30 to 40 times more so than their fellow citizens in the 48 states, measured either in per capita flights or in passenger miles. Aviation in Alaska was developed chiefly by Alaskans who took to it enthusiastically because it appealed to their pioneering spirit and because it was, obviously, the only way to "get around" their vast territory.

The Air Commerce act of 1926, designed to supply federal aid for airfields and aviation, did include Alaska. Yet Alaska was excluded from its benefits by bureaucratic application of this legislation. Until World War II Alaska had no airfields worthy of the name, no radio range stations. But Alaskan bush pilots flew anyhow. Holding up a moistened finger to the breeze they would take off. Their landings were made on beaches and tiny, locally made clearings, or on lakes, rivers and coastal waterways with float planes, and in winter on the snow-covered tundra with ski equipment. This was all intra-Alaskan aviation.

But connections with the outside world, which required substantial capital and the approval of federal agencies, lagged far behind. The first commercial service between Alaska and the states came in 1940 on a very limited basis, after the rest of the Americas had for some years been enjoying such air service. The following decades saw constant struggles by Alaskans to counter discriminations similar to those experienced in other transportation. They succeeded better here, but not wholly. The Civil Aeronautics board put the valuable Alaskan "nonscheds" out of business, though permitting their continuation in the states. Certification of Alaskan aircarriers lagged far behind those in the states and was not achieved until 1957, and some discrimination in rates uniquely against Alaska persisted and still persists.

Nevertheless air service within and to and from Alaska contrasts gratifyingly with Alaska's experience in other fields. Aviation has been indispensable to the growth and development of Alaska. It is possible to reach any point in Alaska, otherwise inaccessible, by air. Once a remote part of the United States, it is now less than a day's flight from the nation's capital. Four airlines, two of them Alaskan, now give scheduled service between Alaska and the other states; and in all, 11 airlines, Alaskan-operated and largely Alaskan-owned, serve within Alaska.

The Salmon Conservation Fiasco.—Another long-standing Alaskan grievance relates to the depletion of what was once Alaska's greatest natural resource, the salmon fishery. It was also the nation's greatest fishery resource.

The Pacific salmon originate in the rivers and lakes of North America's northwest coast; they migrate to sea and return to the waters that gave them birth to spawn and then to die. The salmon industry consists of catching them as they return at the end of their life cycle and processing them, chiefly by canning. Such was the abundance of this resource that Alaska's coastal streams were once solidly red with the mass of anadromous salmon. The first cannery was established in Klawock in 1878 and others followed, financed chiefly by San Francisco capital. Conservation was undreamed of in those days. Not until 1889 did the federal government, alerted by warnings of coming depletion, enact the first regulatory measures. These were continually breached and no adequate means for enforcement were provided. Excessive catches were augmented by a device known as a fish trap, a large structure anchored in the paths of the returning salmon. It was sufficiently costly so as to be available only to those with substantial capital.

Sensing the menace of fish traps, the first Alaska legislature in 1913 urged congress to abolish them, as well as to transfer the fisheries to territorial control. These requests were repeated by all the succeeding legislatures, by referenda in Alaska and by bills to achieve these ends by Alaska's delegates in congress. All this was in vain and the depletion continued. From a high of



MT. MCKINLEY, 20,320 ft., highest peak in North America. In the background at right is Mt. Hunter

8,454,948 cases a quarter of a century ago, the pack dropped to 2,447,448 cases in 1957. For the five years, 1953-1957, the average pack was 2,797,699 cases, the lowest in half a century. So serious were the consequences that the Eisenhower administration felt obliged to declare the fishing villages to be disaster areas—disasters caused not by “Act of God,” but by the acts of men.

The Quest For Statehood

These and various lesser frustrations, and the inability to secure needed legislation from congress in fields which the territory was forbidden to enter, speeded up the drive for statehood.

Delegate Anthony J. Dimond sponsored a statehood bill in congress in 1943 which remained buried in committee. The 1945 Alaska legislature adopted a statehood memorial and provided for a referendum at the coming general election, when statehood was approved by Alaska's voters in a ratio of 3 to 2. Thereafter a statehood bill was introduced in every congress by Delegate E. L. (“Bob”) Bartlett. One passed the house in 1950. Alaskan and Hawaiian statehood were combined in one bill in 1954 over the protests of both Alaskans and Hawaiians. The senate, where the combining was effected, passed the bill by a vote of 57 to 28, but the house did not act on it.

In 1955 the Alaska legislature decided on more drastic action. It appropriated \$300,000 for a constitutional convention. The 55 elected delegates met for 75 days at the University of Alaska and drafted a constitution for the state of Alaska which political scientists declared compared favourably with the existing constitution of any of the states. It was ratified at an election in April 1956 by a vote of more than 2 to 1. The people also approved an ordinance which authorized them to elect two U.S. senators and a representative in advance of action by congress. In doing this Alaskans were following well-established, though not recent, precedents. Tennessee had done so in 1796, when the people of that area, impatient at congressional delays in giving them statehood, elected their senators and sent them to the national capital to work for admission. A similar procedure was followed by Michigan, Iowa, California, Minnesota, Oregon and Kansas.

At the election in October 1956 Ernest Gruening and William A. Egan were chosen respectively for the six- and four-year senatorial terms and Ralph J. Rivers for that of representative.

They promptly departed for Washington, D.C., and spent the next eight months of the first session of the 85th congress presenting the Alaskan statehood cause. They secured favourable committee reports in both houses and continued their labours in the second session, which began in January 1958, until their mission had been accomplished.

The Land

What is this land that Uncle Sam acquired 92 years ago?

To say that it measures 586,400 square miles, one-fifth as large as the other 48 states combined, is impressive but does not fully convey Alaska's size. Nor does the fact that it is larger than the combined areas of the next 3 largest states or of the 21 smallest states. Alaska's extent is better revealed by the map (next page) on which Alaska is superimposed on the United States.

It will be seen that in the superimposition Alaska would touch the Atlantic and Pacific oceans and the Canadian and Mexican boundaries. It is about 1,400 miles from north to south and 2,700 miles from east to west. When one flies westward across Alaska, from Juneau to Nome (both on the Alaskan mainland) the voyager sets his watch back three hours just as when flying from New York to San Francisco. If it were not for the most pronounced jog in any time zone on earth—a 500-mile flare to the west—at least another hour's turnback of the hour hand would be required before reaching midway in the 1,200-mile Aleutian Islands chain. Even more startling is the fact that but for a correspondingly sharp westward deviation of the international date line, the traveler would—within Alaska—skip 24 hours, would move from today into tomorrow! For Alaska's Aleutian Islands stretch well into the eastern hemisphere, almost to the 172nd meridian of east longitude. Alaska is the only portion of America which does this. Alaska is likewise the only area under the American flag to extend well beyond the Arctic circle. It is our farthest west and our farthest north.

There are other “mostests” about Alaska. Its 26,000-mile coast line is longer than the combined Atlantic, Pacific and Gulf coast lines of the 48 states. Alaska also boasts the greatest vertical dimension on the continent. Its Mt. McKinley is the loftiest peak in North America. Ten other Alaskan peaks soar to heights greater than any in the other states, exceeding even California's



COMPARATIVE SIZES of Alaska and the rest of the United States

14,495-foot Mt. Whitney. Alaskans further claim that Alaska's highest mountains *exhibit* more elevation than any other mountains on earth. Mt. McKinley and its surrounding foothills rise from the Susitna plain to the south and the Tanana valley to the north that are a scant 1,000 feet above sea level. Its full 20,320 feet are visible from Alaska's two principal cities, Anchorage, which is at sea level, and Fairbanks, which is a few feet higher.

Mt. St. Elias, the historic 18,008-foot peak which in 1741 gave Alaska's discoverer, Vitus Bering, his first glimpse of the Alaskan mainland, rises from the sea. So does 15,300-foot Mt. Fairweather. These are among the factors that make Alaska's scenery the most sensational and beautiful in the world.

As one travels along the Inside Passage, the 1,000 miles of protected waterway that extends from Puget sound to Skagway, the ship passes between precipitous inclines dense with dark-green virgin forest of hemlock and spruce. Proceeding northward, the mountains rise steeper and higher. Above the timber line the lush lighter green meadows slope upward to massive rock and eternal snows. Great waterfalls cascade from them to the sea. Fiords cleave the mountain ramparts. At their head one glimpses glistening glaciers discharging their crystal blue-white cargoes into deep water.

Here is still an unspoiled wilderness, abundant, fresh, sparkling, little changed since the coming of man. The few coastal communities merely emphasize the great virginal areas between human settlements. An occasional bright totem pole adds colour to the scene. Northward the mountains loom still higher; the fiords cut deeper. The terminal fiord of the Inside Passage, Lynn canal, thrusts 70 miles straight into the continent, the wild jumbled Chilcats walling it in to the west, the massive plateau of the Juneau icecap and its rock pinnacles to the east and dead ahead the sharp 7,000-foot peaks that hem in Skagway, signaling the end of this unique, enclosed salt-water course. Of this John Muir wrote: "No excursion that I know of may be made into any other American wilderness where so marvellous an abundance of noble newborn scenery is so charmingly brought to view. . . . Never before had I become embosomed in scenery so hopelessly beyond description."

But a tableau still more sensational unfolds. As the ship swings westward from the sheltered waters of the Alexander archipelago, those forested islands of southeastern Alaska, a mighty range lifts its crenelated crest and spires, rising tier on tier into the heavens. It is the Fairweather range, with Mt. Fairweather as the keystone of a Gothic arch of cosmic splendour. At its eastern base lies Glacier bay, an amphibious demesne, a Venice among national monuments, for it is best explored by ship, by which its score of active tidal glaciers may be closely approached. Inaccessible for decades except for the privileged

few, it was in 1959 being opened to less exclusive visitation, thanks to the National Park service's "Mission 66" and a recent Alaskan pioneer shipping enterprise.

Moving westward, whether by sea or air, one experiences still greater grandeur. Against an alternation of beaches and tidal glaciers the restless rollers of the Pacific's 20-foot tides pound ceaselessly. Lituya bay laps Mt. Fairweather's south wall, the closest juxtaposition of deep ocean and high mountain on this planet. Then far aloft, visible 100 miles away, the sharp white cone of Mt. St. Elias rockets into the blue, seeming for a while to float disembodied from earth.

Small wonder that so sophisticated a world traveler as Henry Villard, president of the Northern Pacific railroad, commented after his voyage to Alaska in 1899: "It may be said without exaggeration that no other part of the earth known to man surpasses Alaska in imposing and beautiful scenery. The most travelled of those who behold the extent and variety of its scenic magnificence . . . will readily admit that they have never seen the like of it and that nothing they ever saw impressed them so deeply."

That extent and variety would require one or more large volumes for even sketchy description: "A dozen Switzerlands and Norways, only grander than either," say voyagers who have seen both.

The entire Alaskan Pacific coast continues a series of breathtaking panoramas. At the foot of Mt. St. Elias, skirting the great Malaspina (a 1,500-square mile piedmont glacier, the largest glacier outside the polar regions), Yakutat bay and its inner extensions, Disenchantment bay and Rissell fiord, lead to the 400-foot ice cliff that constitutes the four-mile-wide face of the gigantic Hubbard glacier. Its backdrop is 15,700-foot Mt. Vancouver.

Next comes the Copper river delta, then Prince William sound, a network of waterways amid forested islands and fiords that cuts into the lofty Chugach range with the great Columbia glacier sweeping far out into the sound; next, wide and deep Resurrection bay and Cook inlet with its 10,240-foot Mt. Redoubt and 10,100-foot Mt. Iliamna. The latter is the first in a chain of 70 volcanoes, over half of them active, along the Alaska peninsula and the Aleutians. In their midst lies Katmai National monument where a great volcanic upheaval in 1912 created the Valley of Ten Thousand Smokes.

But the southern rim contains only a small part of Alaska's scenic majesty. Inland, Mt. McKinley National park encloses the apex of the continent, its huge size dwarfing adjacent 14,580-foot Mt. Hunter and 17,395-foot Mt. Foraker. The Copper river valley (through which a highway, destined to extend into the tributary Chitina valley, is inching) is perhaps the most scenic drive on earth. For the Chitina valley, 100 miles long and 20 miles wide, its floor heavily timbered and sparkling with lakes, is surrounded (except for Mt. McKinley) by the loftiest peaks on the North American continent—the Chugach to the west, the Wrangells to the north, the St. Elias range to the east and south.

North of the mighty Alaska range, a continuation of the Sierra Nevada, which bisects Alaska from east to west in a great curve that roughly parallels Alaska's concave Pacific shore 300 miles to the south, lies the broad basin of the Yukon with its tributaries, the Porcupine, the Tanana and the Koyukuk. It is the third longest river system in North America, exceeded only by the Mississippi-Missouri and the Mackenzie. It flows for nearly 1,500 miles through Alaska from east to west, emptying into the Bering sea. The Yukon played a part in earlier Alaskan history. It served as the artery of transportation from the Bering coast to the interior and the Klondike during and following the gold rush. It was Alaska's river of romance, so depicted

Misty Morning



CHURCHILL ETTINGER

Men who go to Alaska today find that it is basically one huge construction project. Towns and cities and highways, harbors and airports. Especially airports! The value of the sand and gravel used in its concrete annually surpasses the value of the gold dug from its mines or washed from its creek beds!

Here is the first line of defense against the only possible attacker. Here is where the two giants of the world watch each other across a few miles of fog-shrouded water, out where the dates change. Here is where a ceaseless, round-the-clock vigil is kept by trained flyers.

Soldiers and airmen are everywhere, for Col. Billy Mitchell said it years ago: "In the age of air, we who hold Alaska rule the world!"

The roads are still few, but they split into minutes the distance that dog teams took days to travel. Beyond the highways Alaska is the land of the airplane, where every one and every thing is flown. This is communication — just as the powerful radio stations that now cover the whole area are communications. No more moccasin telegraph!

But this is still a young man's country, just as the West was a young man's country a century ago. This is still a place where a man with brains and patience and guts can get a grubstake and stand a chance to run a few dollars into a fortune. It is still a place for workers — for loggers and tractor men, for mechanics and linemen and carpenters.

It is still a place for pioneers, for men who will clear the sweet valleys and bring in good herds to help feed the growing population. It still is a place for dreamers who will build industries; for men who will keep the dream in their eyes by working through the rich years to make that dream come true.

It is still the land where the twenty-four-hour sun of summer spreads a blanket of flowers across the tundra and up, even to the edge of the fields of perpetual snow.



in the short stories of Jack London and the verse of Robert W. Service.

North of the Yukon basin, within the arctic, lies the northern third of Alaska. It is almost uninhabited and is occupied in large part by the Brooks range, a continuation of the Rocky mountains. Its loftiest peak, Mt. Michelson, is 9,200 feet high. From it considerable rivers emerge, the Koyukuk which flows southwesterly into the Yukon, the Kobuk and Noatak which flow westerly and the Colville, northerly, into the Arctic ocean. Lovers of the wilderness have begun to make their pilgrimages into that region, and some have declared their preference of it to the better-known regions previously described. It is the greatest untouched wilderness area under the American flag.

Henry Gannett, for many years the chief geographer of the U.S. geological survey, who visited Alaska often, gave this "one word of caution to those intending to visit Alaska. . . . If you are old, go by all means; but if you are young, wait. The scenery of Alaska is much grander than anything else of the kind in the world, and it is not well to dull one's capacity for enjoyment by seeing the finest first."

Climates of Alaska

What are the climates of Alaska like? On no aspect of Alaska are greater misconceptions more widely held. The Alaskan visiting the states is apt to be greeted with a jocose "From Alaska! Brrr!" The facts about Alaska's climates are quite otherwise. And, obviously, it is climates, plural. It is no more possible to answer the frequent query, "How's the weather in Alaska?" in one sentence than it would be to do so concerning the other 48 states.

In fact, the climate in which a substantial proportion—until recently a majority—of Alaskans live, along the Pacific coast, is warmer in winter and cooler in summer than is that of New England, central and northern New York state or northern Ohio, Indiana and Illinois, and decidedly warmer in its winter temperatures than that of Michigan, Wisconsin, Minnesota, Iowa, the Dakotas and Montana. In Alaska this littoral zone harbours the four Alaskan cities that rank third through sixth in population—Ketchikan, Sitka, Juneau and Kodiak. It includes also the cities of Wrangell, Petersburg, Valdez, Cordova, Seward and a dozen lesser communities. The explanation of this phenomenon—namely warmer winter temperature in latitudes 1,000 miles farther north—is the Kuroshio, the warm Japan current, which originates off Asia and sweeps eastward across the North Pacific and along the west coast of North America. In Alaska its tepid moisture produces the moderate and, to so many, surprising temperatures. It is also responsible for the heavy rainfall along the Alaskan coast which in turn produces the luxuriant rain forest of southeastern Alaska.

At Ketchikan, which lies at

the lower end of the "panhandle" (the 300-mile strip of mainland and islands which extends northwest to southeast along northern British Columbia) the rainfall averages about 150 inches annually, which is equalled in the states by only one locality in western Washington. Northward the precipitation diminishes to about 87 inches at Sitka and 90 at Juneau and tapers off to only 25 inches at Skagway, at the upper end of the Inside Passage. Subzero temperatures are rare there, and of brief duration. A majority of winters go by without them. The January average temperature for Ketchikan is 32.6° F., for Sitka 32.4° and for Juneau 29.5°. Skagway is drier and also somewhat colder. The average temperatures in July in southeastern Alaska are in the 60s, and rarely rise above 80°. The isothermic line for average winter temperatures for the entire maritime zone of Alaska skirts New York city, St. Louis, Reno and Seattle. Of the eastern part of Alaska's Pacific coast, the U.S. weather bureau writes:

"To those whose conception of Alaska is that of a desolate waste of perennial ice and snow it will come as a surprise to know that the mean temperature of January at Sitka is nearly a degree higher than the mean temperatures for that month in St. Louis."

Simeon Oliver, Alaskan author and musician (son of a Norwegian father and an Eskimo mother, a parentage that would suggest inuredness to cold), in his autobiography wrote of his college days in Naperville, Illinois:

"... I suffered terribly from the cold. This seems like a strange statement for an Eskimo to make, but it is true. As I have said before, the temperature in the Aleutians never goes below zero, and most of the time it is nowhere near that. In Naperville that winter the thermometer fell as low as minus 15° and hung around the minus mark for weeks on end."

As one moves northward and inland in the main body of Alaska, winter temperatures are lower, summer temperatures are slightly higher and the precipitation is very much less. Anchorage partakes of both the maritime and of the next (southern valleys)

ALASKAN SCENERY along the Inside Passage waterway



climatic zone. For while Anchorage is situated on two fingers of the ocean, it is actually shut off from the Pacific by the lofty Chugach range. Consequently Anchorage has experienced the extremes of a rare summer rise into the 90s and a winter drop into the high -30s; it has an annual precipitation of only about 15 inches. The southern valleys zone is a band between 100 and 150 miles wide, stretching across Alaska from east to west—but stopping short of the Bering sea coast—and bounded on the north by the Alaska range. It combines all the best aspects of Alaska's climates: seasonal contrasts, winters neither excessively cold nor summers unbearably warm, little precipitation and lots of sunshine.

North of the Alaska range in the great Yukon basin lies a third climatic zone where are recorded the extremely low temperatures widely publicized in Jack London's stories. Fairbanks, excepting Nome the only important community in these high latitudes, experiences -40s every winter, occasional -50s and even 60s. Yet when the temperature drops this low the air is still. With no wind, -50° F. is far more bearable than +5° F. with a 25-mile-an-hour wind blowing, and the latter condition is not uncommon in the winter climate of the northern states. Besides, Alaskans are prepared and equipped for the cold. Their houses are well heated and insulated; their outdoor clothing, including parkas, fur caps and mukluks, is admirably protective.

The greatest range of temperatures under the American flag occurs in this zone of Alaska. Fort Yukon on the Arctic circle has registered as high as 100° F. in June and -78° F. in January.

North of the great Brooks range and between it and the Arctic ocean, the arctic slope provides a fourth climatic zone. This is a region of very little precipitation and low temperatures, but its low temperatures are still higher than those of the Yukon zone because of the tempering effect of the Arctic ocean. The Bering sea coast—a fifth climatic variant—has a similar climate, though it is somewhat warmer in winter and has more precipitation.

The fact is that there are few regions in Alaska that are not habitable by man, and whose climates do not compare favourably with many areas in the other states, although one would scarcely commend for their year-round habitability Alaska's arctic slope with its very long winters of continuing low temperatures, or the Aleutian Islands, fogbound for much of the summer and gusty with williwaws in other seasons.

The heavy rainfall in southeastern Alaska is the chief object of visitors' or newcomers' criticism of its climate, though residents either like it or forget it promptly when the sun emerges.

Indeed, taken as a whole, Alaska's climates are more favourable not merely for comfort, but for security and survival, than nearly every area in the other states. For Alaska suffers almost none of the climatic catastrophies that periodically afflict various portions of the states and annually take their toll of property and lives. Alaskans hear over their radios about the high death toll taken by the hurricanes which ravage the Atlantic and Gulf coasts; of the tornadoes which rip southern and midwestern communities, leaving numerous dead in their paths; of the floods that from New England to California leave a trail of tragic fatalities; and of the paralyzing blizzards of the prairie states in which cattle and human beings perish.

Alaskans read with sympathy their newspaper headlines that in 1955 hurricanes "Connie" and "Diane" killed more than 230 persons in the Atlantic coastal states and in 1957 "Audrey" more than decimated the Louisiana town of Cameron, blotting out 534 lives in the area; or that in 1956 a tornado twisted through the outskirts of Birmingham, Ala., leaving 22 dead and 800 injured in its wake; or another which slashed through Ohio and Michigan, snuffing out 10 lives and injuring 130. They learned with amazement that the average annual tornado toll is over 200 and that few states are free from this whirling peril.

They learned that in both eastern and western states floods drown scores of persons: almost 50 in one year in the rampage of the Housatonic and other rivers in Connecticut, many more by the Delaware and nearby streams turned torrential, while across the nation in northern California, flooded rivers swept at least 65 to their doom.

With two exceptions, Alaska has not experienced such disasters which brought death to numbers of persons in their everyday surroundings. One exception that is officially recorded was in April 1946, when after a tremendous earthquake of the ocean floor, seismic waves (popularly known as tidal waves) traveled centrifugally across the North Pacific from the epicenter at 164° west longitude and 53½° north latitude, and on a calm, clear night engulfed a lighthouse at Scotch Cap on the southern shore of Unimak Island, one of the eastern Aleutians, carrying to death 10 persons who, unwarned, were sleeping within. South-bound waves from the same upheaval killed 173 persons in Hawaii. One perished on the California coast. This was scarcely an Alaskan climatic phenomenon. Another earthquake felt throughout southeastern Alaska on July 10, 1958, left three dead and two missing, three picnickers on the tip of an island in Yakutat bay being engulfed, and a couple in a fishing boat swept to their doom by a 50-foot wall of water.

But the great volcanic upheaval of Katmai in 1912 which deposited 11 inches of ash on the town of Kodiak, bringing much discomfort to its inhabitants, and clouded the stratosphere around the world with its volatile emission, resulted in not one person's death. Neither is there any record of other volcanic upheavals in Alaska producing human fatalities. Even thunderstorms are rare and mild in Alaska, and there is no record of anyone's being killed by lightning as happens annually somewhere in the other states.

Carelessness, needless venturesomeness, foolhardiness, ignorance of terrain, lack of proper clothing—these have caused death from exposure and exhaustion in Alaska. But they have resulted from errors of individuals, not from "acts of God"—namely hurricane, tornado, flood or volcanic eruption. Thus, startling as the fact may appear, it can be stated categorically that from the peril of natural phenomena Alaska is the safest place to live under the American flag.

One other condition markedly distinguishes the climates of Alaska from those of the other states. Alaska's higher latitudes confer a great length of daylight in summer and a corresponding shortness of daylight in winter. In Fairbanks one can read a newspaper out-of-doors throughout the 24 hours of the day from mid-May to late July. Every year the people of Fairbanks enjoy a midnight baseball game on June 21. On that date the sun rises at 12:57 A.M. and sets at 11:48 P.M.

Fairbanks lies 120 miles below the Arctic circle, where the midnight sun becomes visible on the longest day of the year. As one moves northward the sun remains in the summer sky for increasingly longer periods. At Barrow, Alaska's northernmost community, the sun remains aloft all day from May 15 to August 2. Of course, in the weeks surrounding the winter solstice only a waxing and waning glow above the southern horizon marks daytime. Yet these long northern nights are not really dark; far from it. The snow-covered land is bright in the moonlight. On moonless nights the unclouded winter skies twinkle with myriad stars. And during many of these nights the heavens are aflame with the wavering brilliance of the aurora borealis, lighting up the landscape.

Even in southern Alaska—the Pacific coast and the panhandle—summer nights are but brief intervals, not of darkness, but of twilight, while the sun having set, not in the west, but in the north by slightly west, describes a shallow curve below the horizon and rises again in the north by slightly east. This makes



THE MIDNIGHT SUN. A multiple exposure photograph taken in northern Alaska in the summer at midnight

possible in Alaska the phenomenon of seeing sunset and sunrise at the same time, respectively in the northwestern and north-eastern sky!

These long days markedly and pleasantly affect the habits of Alaskans. Outings, whether for fishing, a mountain climb or a family picnic, do not end at 5 or 6 o'clock in the afternoon as in the other states, but continue until 10 or 11 P.M. or even all night. Thus Alaskans' summers, whether for work or play, are inevitably periods of intense activity. By the same token, winters with their short days are correspondingly inactive. The older Alaskan activities, fishing and placer mining, are of necessity suspended in winter: the fish do not "run"; neither do the creeks, for they are frozen. And while winter sports are on the increase, especially skiing, winter in Alaska is designed for indoor labours, and for activities such as reading. Duration of light and darkness rather than intensity of cold or heat constitute the greatest differences between the climates of Alaska and those of the other states.

The Pattern of Settlement

The Russians, after 126 years from their discovery of Alaska to their cession of it, left the aboriginal Alaskans much as they found them. An exception was the Aleuts, an Eskimoid people who occupied the Aleutian Islands, the Alaska peninsula and its offshore islands. The Russian fur hunters killed off many of them. To the north, along the Bering sea and Arctic coasts and inland along the Kuskokwim, lower Yukon, Kobuk and Noatak rivers, were the Eskimos. In the vast interior were Athabascan Indians. In southeastern Alaska dwelt Tlingit of the north-west Indian culture, the totem pole carvers. None of these were disturbed in their native habitats, and so the Americans found them.

Interested wholly in furs the Russians did not penetrate far inland. They located a few trading posts on the Yukon and Kuskokwim rivers. Their principal settlements, which have persisted, are along the Pacific coast. The earliest was made in 1784 on Kodiak Island at Three Saints bay on the southwest coast. This was moved in 1792 to the eastern end of the island, where the village of Kodiak became the first enduring community founded by white men. A few Aleut villages survive on the eastern Aleutians and the Alaska peninsula, including Nikolski, Unalaska, Chernofski, Belkofski, and on the Kenai peninsula, namely Kasilof, Ninilchik and Kenai. These harbour some architectural remnants of the Russian days such as sturdy log cabins and Orthodox Greek church edifices with their bulbous steeples and double-barred crosses. Sitka was established in 1804 on Baranof Island.

However, all but a few Russians returned to Russia, leaving a legacy of mixed bloods along the Aleutians, Alaska peninsula and offshore islands. Except as noted above they left little of

permanent settlement.

The "native" villages were more permanent. ("Native" is the Alaskan term for Indian, Aleut or Eskimo.) Most of these house the descendants of the aboriginal inhabitants with little white infiltration. Such are the Indian villages of Saxman, Klawock, Kake, Angoon, Hoonah, Klukwan and Yakutat in southeastern Alaska; and Tetlin and Minto in the interior. Eskimo villages, on the Kuskokwim river or along the Bering and Arctic coasts, are Akiak, Unalakleet, Shishmaref, Deering, Kotzebue, Kivalina, Point Hope, Wainwright and Barrow, and those on St. Lawrence, King and Little Diomed islands; up the rivers that flow into the Arctic are found Selawik, Kiana, Shungnak and Noatak.

There are also former "native" communities which have been invaded and shared for one reason or another by whites. Such is Wrangell, in whose existence nearness to the mouth of the Stikine river, which cuts through the coastal range, has played a major part. It was an artery of trade before the coming of white men. The Russians built a fort there to stop Hudson's Bay company encroachments. It was an early seat of Presbyterian missionary endeavour.

Mining discoveries founded other communities, where may also be found descendants of the aboriginal inhabitants. Such is Juneau, where gold was struck in 1880, along with Treadwell which has vanished to be succeeded by Douglas. Ketchikan was likewise a "native" community which attracted white settlers in the late 1880s because of abundant salmon runs and nearby mining.

Petersburg on Mitkof Island was founded in 1899 by Peter Buschman, a canneryman, because of its advantageous location for fisheries, and was peopled by sturdy immigrants, principally from Norway.

Various communities owe their existence chiefly to being ports of entry to the Klondike gold rush. These include Haines, inhabited by the warlike Chilcats who traded with interior Indians over the Dalton trail; also Skagway and vanished neighbouring Dyce, respectively entrances to White and Chilkoot passes; and Valdez on Prince William sound, through which a trail led to the Yukon in the late 1890s.

Neighbouring Cordova, absorbing the Indian community of Eyak, burst into prominence when the Morgan-Guggenheim syndicate early in the 20th century made it the ocean terminus of the Copper River and Northwestern railway, designed to reach the rich copper deposits of the Kennecott mine 193 miles north-east in the Chitina valley.

Seward, at the head of Resurrection bay, was born at the turn of the century when private enterprise sought to build a railroad from there to the interior. This enterprise failed, largely because of bureaucratic obstruction in Washington which prevented the



ALASKA'S PAST: Russian Greek Orthodox church at Kodiak

mining of Alaska's abundant coal for a decade and a half. The coal was required both for the railroad's fuel and as a cargo. The government later decided to build its railroad over the same route.

That same government enterprise created Anchorage, successor to a hamlet on Ship creek between Knik and Turnagain arms, tidal prolongations of Cook inlet. When Seattle speculators, anticipating that Seward would become the Alaska railroad headquarters, bought up most of its townsite, expecting that the federal government would be forced to buy at their prices, the Wilson administration outsmarted them and founded Anchorage 130 miles north, in 1914.

Fairbanks owes its birth to the discovery of gold in 1903. Nome, 600 miles to the west on the Bering sea, also came to life because gold was found nearby in 1898.

Thus it will be seen that Alaska is essentially a young country, a new country. The Russians left next to nothing. For the next third of a century the Americans brought next to nothing. United States rule prevented settlement. Until the 20th century Alaska remained static, forgotten, a wilderness inhabited chiefly by primitives, pursuing their prehistoric hunting and fishing, bartering their furs to white traders, or some fish to the canneries, for the white man's goods.

The Gold Rush and the Beginnings of Growth

The gold rush of the late 1890s was a rediscovery of Alaska by the American people. It more than doubled Alaska's population. To one almost wholly indigenous it added another wholly white. It brought to the last frontier the dynamism that in preceding generations had carried the adventurous across the North American continent. It marked the beginning of economic Alaska. It initiated political Alaska. Indeed it bid fair to be an extension of the American epic just at the time free land disappeared in the West.

But the great momentum was not to endure. Alaska's economy was limited and seasonal. It depended on fisheries, gold and furs. To whatever extent these resources contributed to building a stable society, it was due to the efforts of the pioneers themselves. They overcame the natural handicaps. They hewed an existence from the wilderness. They implanted their customs into the frontier settlements and laid the foundations of permanent towns. The self-government they had vainly sought they adapted in its limited form to the best use they could. But the restrictions

of a distant bureaucracy and of congress made it impossible for them to develop Alaska as they yearned to do and as their earlier counterparts had done in the West. Man-made obstacles defeated them.

Alaska's accessible coal resources were locked up by the department of the interior for a decade and a half until the era of coal had largely passed and petroleum importations took its place. The forestry resources, 20,000,000 acres of virgin stands of hemlock and spruce, were held out of use by the department of agriculture. Land acquisition, the basic ingredient of settlement, was strangled in the red tape of the general land office and the unwillingness of congress to appropriate for surveys. Transportation, in all its forms, was hamstrung.

And while the development of new resources and a broadening of the economic base were thus prevented, the older resources began to dwindle. Many gold deposits were worked out. Ghost towns—Hyder, Chitina, McCarthy, Iditarod, Flat, Livengood—replaced the once bustling frontier settlements.

So, with the opportunities for a livelihood diminishing, people began leaving Alaska and going back to the states. While the population of every other area under the American flag soared in the first three decades of the 20th century, Alaska's alone declined. The 1900 census showed a population of 63,592, but it was probably greater by the middle of the next decade, for the full impact of the successive gold strikes and the new enthusiasm for Alaska had not fully registered by 1900. In fact even in 1910 when the early fervour had been cooled by federal obstruction, the figure of 64,356 was still higher than in the previous census. But by 1920 it had dropped to 55,036, a decrease of 14.7%, while the population of the United States had, in the same decade, increased by about the same percentage—14.9. By 1930 Alaska's population had grown slightly, to 59,278. However, it is the comparison between the nation's and Alaska's 1900 and 1930 population figures that is significant. In that dynamic first third of the century, a period of expansion and optimism, the population of Alaska had declined by 4,314 or 6.7%, while the nation's had risen from 75,994,575 to 122,775,046, an increase of 61.5%, and this increase was shared by every political entity, state, territory or possession, other than Alaska.

The 1930s were to bring a favourable change. The New Deal's all-embracing reforms helped Alaska with its public works, housing, Civilian Conservation corps projects and social security. Particularly beneficial was the Roosevelt administration's increase of the price of gold in 1933 from \$20.67 to \$35 an ounce, which lifted Alaska's mining from its doldrums. Also helpful was the colonization in 1935 of 200 families taken from relief rolls in stricken agricultural areas of Michigan, Wisconsin and Minnesota and settled in the Matanuska valley 50 miles north of Anchorage. While the project was initially marred by administrative errors, it focused attention on agriculture as an Alaskan economic potential, recalled Alaska to widespread public attention as a frontier of opportunity and, after growing pains, proved its value.

Yet utterly unanticipated and unplanned events led to a second rediscovery of Alaska and reopened a future of promise.

Alaska and National Defense

In 1935 a brilliant and dynamic officer, who had served in Alaska following the gold rush when the army signal corps was stringing telegraph wires through the wilderness, called attention to the strategic importance of Alaska:

"Alaska is the most central place in the world for aircraft," declared Gen. "Billy" Mitchell at a congressional hearing; "he who holds Alaska will hold the world."

But General Mitchell's vision concerning Alaska was destined, for a time, to get as little favourable attention as his foresight

about the value of aircraft in war. For two years previously Alaska's delegate had also been pleading for some defenses for Alaska, and he continued to do so throughout the 1930s. Four and a half years before the attack on Pearl Harbor Delegate Dimond, testifying before a U.S. senate appropriations committee, prophesied that Japan would attack without warning.

Little heed was given to these pleas and warnings. No attention was paid to the repeated requests for an army and navy base in Alaska. The sole military representation in Alaska was an obsolete army post, Fort Seward (at Haines), dating from the gold rush days. As late as November 12, 1937, Gen. Malin Craig, chief of staff of the United States army, rejected Delegate Dimond's written plea for endorsement of an army air base in Alaska, "... for the reason that the mainland of Alaska is so remote from the strategic areas of the Pacific that it is difficult to conceive of circumstances in which air operations therefrom would contribute materially to the national defense."

When in 1940 the war department finally requested \$12,000,000 for such a base near Anchorage it was deleted by the house appropriations committee. It was restored by the senate two months later after Hitler's invasions of Norway, Denmark, the Netherlands and Belgium brought a sense of urgency to the federal government.

The navy in 1939 began construction of 15 naval air stations in U.S. territories and possessions. Bases at Sitka and Kodiak were among these and a third one at Dutch Harbor was authorized shortly afterward. But no Alaska bases, army or navy, were ready for service when the Japanese struck at Pearl Harbor on December 7, 1941.

The war department had likewise throughout the previous two years denied endorsement, as having "no military value," to a highway between the states and Alaska recommended by a commission created by congress in 1938, and repeatedly urged by Delegate Dimond. Two months after the outbreak of war construction of that highway was begun in great haste over an unsurveyed route. The route was determined by the location of three newly constructed Canadian airports at Fort St. John, Fort Nelson and Watson Lake.

As a consequence of this limited federal vision concerning Alaska's military value, Alaska became the only portion of North America to be invaded and for a time held by the enemy. For on June 7, 1942, the Japanese occupied the islands of Attu and Kiska at the western end of the Aleutian chain. Three days earlier their planes had bombed the naval station at Dutch Harbor. (Kiska had been set aside as a U.S. naval base in 1904 but congress had never appropriated for its construction.)

At the outbreak of World War II Alaska, in military matters as in all else, was subject to long-range controls. The army was under the western defense command with headquarters at San Francisco. The navy was under the 13th naval district, headquartered at Seattle. But defense exigencies ere long compelled the establishment of the Alaska defense command at a joint army-air base near Anchorage. The 17th naval district was formed with headquarters at Kodiak.

The campaign to expel the Japanese invaders from American soil was an island-hopping operation under navy command. Bases were successively established on the Aleutian Islands until the enemy was within range. The enemy was exterminated on Attu in May 1943, and a mammoth invasion of Kiska was launched. That the Japanese had escaped from Kiska weeks previously likewise escaped the intelligence service of the U.S. high command. The result would nevertheless have been wholly gratifying had not American units mistaken each other for the enemy on that abandoned island and in the darkness shot and killed 17 of their number. But it was the first American military experience in those northern latitudes under conditions never before encoun-

tered; and while the Japanese occupation had served its purpose as a diversionary maneuver, there, as in every other theatre of war, the foe was defeated.

Twenty American servicemen lie buried on Kiska: Akins, Barr, Boisclair, Borovatz, Cochran, Des Jardins, Fantozzi, Freedman, Hannabass, Huber, Levy, Markesky, Morgan, Nordgaard, Reyes, Ryan, Slayden, Smith, Werner, Zehmensky.

In the diversity of their ethnic origin, recorded on their grave-stones, is told again, as elsewhere on freedom's battlefields, the unity of purpose which led to the sacrifice of these gallant young lives.

Alaskans acquitted themselves well in the war. Practically every adult male and female was engaged in some aspect of national defense. More than one-tenth of the total population, reported in the 1940 census as 72,524—namely 7,606—served in the armed forces. About 4,000 more served in the Alaska territorial guard (A.T.G.). This was a unique military organization of 101 units, serving as volunteers, with rifles, ammunition and clothing supplied by the U.S. army. The governor secured authority to organize the A.T.G. after the four Alaska national guard companies he had established in 1939 were federalized.

The territorial guard rendered valuable service in helping the regular defense forces protect the tremendous stretches of coast and interior against the possible landing of enemy raiding and scouting parties and the entrance of espionage agents or saboteurs. Enrollment was generally restricted to males of 16 or over, although some exceptions were made especially in the Eskimo country, where younger boys were accepted.

The A.T.G. brought in 27 balloons which the Japanese launched in the war's later stages. It rescued downed flyers and its work was highly appreciated by the Alaska defense command. Apart from its military usefulness it served as a valuable civic integrator.

V-J day had scarcely passed into history when Alaskan bases were decommissioned. Again Alaskans protested, but in 1948 congress, which earlier had appropriated \$7,000,000,000 for military and economic aid to Europe, rejected a requested authorization for \$137,000,000 for Alaskan defenses. Alaskans could see no logic in defending one door, especially where there were several hundred miles of terrain and 3,000 miles of Atlantic ocean which invaders would have to cross, and leaving the other door, with only a 54-mile strait between Soviet Siberia and

ALASKA'S DEFENSE SYSTEM and location of military establishments



America, undefended.

But there was worse to come. In the late summer of 1949 the people of the Puget sound area found that the U.S. air force was moving the production of the Boeing aircraft plant from Seattle to Wichita, Kan. Boeing, with 25,000 workers, was the largest employer in the area. Would these thousands of people be thrown out of work or forced to sell their homes, uproot themselves and move inland 1,500 miles? A "Save Boeing, Defend Seattle" committee was formed. It invited the secretary of the air force, Stuart Symington, to meet with it and explain the reasons for the move.

A total of 150 persons representing industry, labour, patriotic groups, the press and the state of Washington congressional delegation, met in Seattle on September 8, 1949. Secretary Symington told them that the air force had learned that the U.S.S.R. had large numbers of bombers that could fly the 2,400 miles from eastern Siberia to the Seattle area, drop their bombs and return, whereas Wichita was 3,600 miles from Siberia and out of bombers' range. It was a military decision, he said, but he approved it.

Seattle's threatened economic disaster was to have far-reaching consequences, for Alaska and for the national defense. Gov. Ernest Gruening of Alaska pointed out to the gathering that if Alaska had a radar screen to detect hostile aircraft, and plenty of U.S. interceptors to shoot them down in the long journey across the territory, those enemy planes would be obliged to fly southwest from eastern Siberia around the Aleutians, adding 1,000 miles to their round trip, which would make the presumed raid on Seattle as far as the one on Wichita. The solution was there. Boeing was saved for Seattle, and less than three months later (December 6) the *New York Times* announced plans for the air force to build an Alaska radar line, under which it would divert \$50,000,000 of its own funds for a new "fence" to guard against an air attack. Thus was begun the redefense of Alaska. What does it consist of today?

Alaska command headquarters is at Elmendorf field near Anchorage, where a three-star air force general is in supreme command. Adjacent is Fort Richardson, headquarters of the infantry. Ladd field, near Fairbanks, earlier a cold-weather testing station, has long since been converted into an air base; and Camp Eielson, another air force base, is 20 miles to the southeast. Fort Greely at Big Delta is an infantry post designed to train for combat under arctic and subarctic conditions. The navy's headquarters of the Alaskan sea frontier is at Kodiak, under a rear admiral.

The defense of Alaska is based on the so-called "heartland" concept. The defense front extends north-south through central Alaska with Ladd field at its northern end. Peripheral defenses, established during World War II, have been abandoned since hostile planes could cross Bering strait too rapidly to permit warning. Now 500 miles of relatively empty terrain lie between coast and defense line. One exception is the principal wartime Aleutian base on Adak, which is maintained for air, ground and navy use.

The DEW (distant early warning) line became operational July 31, 1957. Extension of this radar screen to the Aleutians was to be completed by 1959. The "White Alice" communications system, an up-to-date linking of Alaskan points by microwave and tropospheric scatter to establish instantaneous contact with all points in the national defense establishment, is functioning. With the increasing importance of guided missiles, new sites for missile launching and missile interception have been provided.

Thus Alaska's role as a bulwark for the North American continent has been increasingly recognized, and its defenses correspondingly strengthened. Yet Alaskans feel that there is room for substantial improvement, and that the political and opera-

tional instability of many bases on foreign soil should lead to a still greater appreciation of Alaska's unique potentialities for defense and offense in behalf of the western hemisphere.

The Federal Bureaucracy

After the gold rush, a 30-year famine of concern for Alaska became a federal feast. The bureaucracy moved in and promptly took control of Alaska's land and resources and laid a heavy hand on the lives and activities of the people. What congress did not provide in restrictive legislation or in failure to legislate for Alaskans' needs, the bureaucrats supplied by executive action or inaction.

Often termed the "boss of Alaska," the secretary of the interior had over-all jurisdiction of the territory. Also, the principal agencies operating in Alaska were those of the department of the interior: the bureau of land management, bureau of Indian affairs, fish and wildlife service, bureau of mines, geological survey, national park service, the Alaska railroad and the Alaska public works agency. With every one of these agencies the people of Alaska were variously in conflict. They seldom won.

The governor of Alaska and his understudy, the secretary of Alaska, were appointed by the president on nomination of the secretary of the interior and reported to the latter. The personality, temperament, mood, interest or uninterest of the secretary of the interior were as vital to Alaskans as was royalty's pleasure or displeasure under a monarchy; and no less determinative of their fate was the information he received from his bureau chiefs, a likely source of policy since no secretary could really become fully familiar with the "omnium-gatherum" of widely diverse activities that constituted his realm. Alaskans experienced all kinds of secretaries of the interior.

It was Franklin K. Lane, an enlightened incumbent of the office, who, over 40 years ago, drafted the most devastating indictment of the federal bureaucracy in Alaska. But its bureaucracy was too strongly entrenched to heed mere verbal castigation, and its hold on Alaska increased. By contrast, as another secretary of the interior, Walter L. Fisher, pointed out half a century ago, "the jurisdiction of the department of the interior over Hawaii is extremely limited," and "the islands are largely self-governing," a condition which to Alaskans justified Hawaii's appellation as the "paradise of the Pacific."

Next in its impact on the lives of Alaskans has been the U.S. forest service of the department of agriculture, which ruled the 20,400,000 acres of land that enclose or border on nearly all of Alaska's major communities. The department of commerce operates the extensive Civil Aeronautics administration, and since 1956, the bureau of public roads.

In an article in *Fortune* (September 1955) entitled "Alaska: 'The Last Frontier,'" Richard Austin Smith wrote: "Nowhere under the American flag do U.S. citizens have fewer rights and more obligations . . . Territories are controlled by the whim of Congress, which can impose on them laws that would be unconstitutional in any of the forty-eight states. Congress has, and exercises, the power to . . . give preferential treatment to states at the expense of territories, favor one territory over another in matters of local government, resource control, federal aid, and debt incurrence. As territorials, Alaskans have no voting representation in Congress, cannot vote in presidential elections, must accept a Washington-appointed governor and secretary. They have no voice in the choice of the Secretary of the Interior or of the officials in the Department of the Interior's Alaska Division, the supreme authorities on Alaskan affairs. Washington has the say in parcelling out all Alaskan resources, including timber, fisheries, wildlife, coal, minerals, oil and waterpower. . . .

"Alaska, from the bureaucrat's point of view, is the last best hope in North America. Nowhere else under the flag has the fed-

eral government got such a grip on the lives of U.S. citizens. Cut a tree, build a house, harness a stream, shoot a bear, or net a salmon on 99 per cent of the land and a bureaucrat will be on hand to say you yea or nay . . ." *

While most Alaskans would deem all this patently true, there are other federal agencies and officials who have devotedly sought to reconcile federal policy with local need and sentiment, and who have served faithfully without any conflict whatever with the people and have contributed substantially to Alaska's betterment.

In addition to its defense role, the army through its signal corps has operated the territory's telegraph system for half a century and rendered service generally pleasing to the Alaskan public. The most popular federal agency in Alaska is the U.S. coast guard. Alaskan communities, being primarily coastal with much of the livelihood and recreation of their people derived from the sea, feel the coast guard has a much closer relation to them than to the inhabitants of its 11 other districts. "The coast guard's function is to assist everyone," Comdr. Harry G. Hamlet (later commandant) testified concerning his service's role in Alaska, 40 years ago. It has so functioned. The major assistance rendered has been all-weather rescue of those "that do business in great waters."

The Territorial Government

Within the limitations imposed by the Organic act of 1912, the first legislature in 1913 began the erection of a territorial governmental structure. Enfranchisement of women as its first act has been mentioned. It established a home for aged prospectors which in 1915 was expanded into an old-age pension system for the indigent of both sexes. This was the first social legislation of its kind in the union and a modest anticipation by 20 years of "social security" for the entire nation. With equal concern for youth it provided for the care of dependent children. It legislated for needs apparent at that time in education, mining, labour (an eight-hour day was established) and much more. It created a simple revenue system through licences on businesses and occupations, a per case tax on canned salmon, and a head tax on males only (always gallant these pioneers!). Vision tempered by frugality characterized these early lawmakers. The first biennial appropriation was less than \$100,000, a feat accomplished by an act facilitating the creation of municipalities and investing them with taxing powers for local needs, and by assigning as many as possible of the newly created duties to federal officials already functioning in the territory.

By the middle 1950s, a third of a century later, the territory was conducting virtually every public service found in any state. The 1957-59 biennial appropriation had risen to more than \$36,000,000. How was the final comprehensive structure of territorial government arrived at, and of what did it consist as it was about to become a state government?

During the 30 years after the second assembly, from 1915 through 1944, two tendencies characterized the legislatures. Exclusion from vital areas of legislation through inability to secure liberalization of the Organic act led to reaching for more autonomy into the only avenues available, by the election of such officials as were needed and the creation of administrative boards whose appointees required legislative confirmation—both reactions against federal control. The posts of treasurer, attorney general, auditor, highway engineer and commissioner of labour were made elective. The boards, composed of one member from each judicial division and usually one at large, spread participation in government and removed their staffs from direct gubernatorial control. But even this slight assertion of desire did not

offset the sense of frustration and consequent decline of interest in legislation which marked a succession of more than a dozen sterile sessions.

Almost consequent was the other tendency of increasing submission to the lobbies of the absentee fishing and mining interests. Their domination was facilitated by the smallness of the Alaska senate, which until 1945 was composed of only eight members. As the lobbyists were interested chiefly in blocking legislation, such as would involve expenditure for needed public services and hence spell increased taxes, they needed to capture only four senators, since a tie vote defeated a measure. They were generally successful until 1948 when overplay of their hand in the 1947 legislature brought a sweeping revolt at the polls and a legislature in 1949 which, ignoring the lobbyists, enacted a long-overdue tax program and much other beneficent legislation. The result was also in part attributable to an amendment to the Organic act in 1944—the only significant amendment in 32 years—which increased membership of the senate to 16 and of the house to 24 with proportionate representation in the latter. Also, the impact of World War II and the population increase wrought by defense construction and postwar immigration into Alaska made legislation to meet new needs imperative.

Faced by the influx of camp followers of the construction boom, and dissatisfied with the lack of law enforcement by a handful of marshals and their deputies, which along with the judiciary congress had kept under federal control, the legislature established a territorial highway patrol in 1941. This was later expanded into a territorial police force.

Defense requirements on the territorial level were met by a national guard with air and ground units and scout battalions, successors of the Alaska territorial guard of World War II, by a department of civil defense, and by a civil air patrol. This last, in 1957, ranked second among the 52 C.A.P. wings of the states and territories in effectiveness and scope of the wing program, being surpassed only by that of Pennsylvania.

Appalled at the federal government's neglect of health measures in the areas where it had assumed full responsibility—care of the Eskimos, Aleuts and Indians—the 1945 legislature established a department of health with a full-time commissioner. Previously a physician had served on a part-time basis. At this time the incidence of tuberculosis was nine times that in the states. A special legislative session called by the governor in 1946 launched a full-scale drive on tuberculosis and appropriated funds for it. Federal matching funds and hospital construction followed, with a resultant substantial reduction of the incidence and death rate in the next 13 years, though it was still the highest in the nation. Assisting in this battle was the Arctic Health and Research centre, established in 1948 at Anchorage by the U.S. public health service, which began providing both basic and applied research to the problems peculiar to the arctic and subarctic, previously unexplored fields.

The same special session in 1946 enacted the first veterans' legislation adopted after World War II by any state or territory. Through it, Alaskan veterans could secure bonuses, proportional to length of service, or loans up to \$10,000 to acquire a home, farm, business or fishing boat. The program was financed by a territorial sales tax which ceased when \$3,250,000 had accumulated. After that the loaning was continued with funds received from repayment of principal and interest of loans. Subsequently the benefits were extended to Korea war veterans and the borrowable amount was raised to \$15,000. This program not only helped many veterans to re-establish themselves in civilian life but gave the economy of Alaska a tremendous lift. The 4% interest rate, contrasting with the prevailing 8% charged by the banks, stimulated new construction and enterprise.

Many G.I.'s from the states who served in Alaska, attracted by

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HOMESTEAD FARMER of the Matanuska valley

its frontier aspects, decided to settle there. Homesteading under long-standing requirements, relating to the cultivation of the land, imposed by federal law and regulations presented obstacles. To diminish these, the 1945 legislature created a territorial department of agriculture, and in subsequent sessions a soil conservation board, an agricultural revolving loan fund and an agricultural pest and disease control fund, and gave aid to agricultural and industrial fairs.

Alaska's farmers received none of the benefits of price supports available to farmers in the states. They did receive some benefits from federal contributions to agricultural research, which were made available to the land-grant University of Alaska and its experiment station at Matanuska.

In anticipation of postwar expansion a development board was established in 1945, later divided into two agencies designed to develop natural resources and attract industries. A part of this work had been done for 10 years by a department of mines, which continued to do it.

The 1949 legislature revamped an existing aeronautics and communications commission. A department of aviation was created which constructed and maintained airfields, which were not under federal C.A.A. supervision, and floats and ramps for the considerable seaplane traffic. A department of communications likewise supplemented the work of the C.A.A. and of the Alaska communication system of the U.S. army signal corps.

Deeply disturbed by the depletion of the Pacific salmon, the 1949 legislature created a department of fisheries. The purpose was twofold: first, to prepare for the responsibilities of statehood; second, to assist and improve the management of the fisheries by the U.S. fish and wildlife service, whose policies—as well as those of its federal predecessors—had long been under severe criticism by Alaskans. Although the territorial agency had no power to regulate this resource, it attempted by advice and research to improve federal performance and by other measures, such as clearing obstructions from salmon streams, establishing hatcheries and stocking lakes and rivers, to compensate for federal deficiencies.

Another sort of need was anticipated by the 1949 legislature's act banning billboards from Alaska's highways, a problem with which the rest of the nation was still wrestling a decade later. Alaska's legislative action forestalled the billboard lobby and the

defacement of Alaska's scenic beauty.

Partly anticipatory was the creation of a department of lands. Its functions were to manage the two public land sections in each township which had been set aside for the support of schools, and the abandoned homesteads which legislation had brought into territorial ownership, as well as to prepare for the transfer of vast acreage to the coming state.

In anticipation also, the 1955 legislature enacted comprehensive regulatory legislation for oil and gas exploration and drilling and created a commission to see to its enforcement.

The departments of highways and public works, public welfare, finance, taxation, labour and insurance, the Alaska Housing authority, the attorney general's office and the treasurer's office performed the services their titles imply. The territory supported the Pioneers home at Sitka, the Historical library and museum in the capital, the department of library service which aided local libraries throughout Alaska. Various boards and commissions were formed to deal with accountancy, banking, employment security, juvenile institutions, real estate and sick and disabled fishermen. There was also a safety council, a legislative council and the Alaska Statehood committee, as well as examining boards for architects and engineers, the bar, chiropractors, cosmetologists, dentists, nurses, optometrists, pharmacists, physicians, etc.

The Educational System

Alaskans deem education to be the most important of all territorial functions. Since 1884 the department of the interior had assumed responsibility for teaching the "native" population. The first Alaskan legislature in 1913 made school attendance compulsory for "any white child or child of mixed blood living a civilized life" between the ages of 8 and 16. Since then the public-school system has been the major concern of the territorial authorities. In 1958 approximately one-half of the territorial budget was devoted to it.

The territorial board of education consisted of five members, appointed by the governor and subject to confirmation by the legislature. Since the earliest days a tradition of nonpolitical appointment was maintained. The board appointed the commissioner of education as its executive, and jointly they formulated the territory's educational policies. The curriculum prescribed represented a minimum, yet was fairly comprehensive. In addition to the basic essentials it included social studies, natural science, foreign languages, the arts, vocational training and a well-planned program of extracurricular activities for physical development and character building. Audiovisual instruction was later added.

Collaborating with the territorial board and commissioner were the school boards in 28 school districts. These were created by special elections held by their residents. Each district elected a board of five members. While carrying out the territorial educational policies, the school boards were free to expand and add to the courses as local conditions required. An optimum of local control was thereby achieved, while nationally approved standards were retained.

The territory paid the greater part of the costs of public-school education. The proportion varied from 75%, in districts where the school population exceeded 500, to 85% in the smaller ones. For the 98 schools outside the incorporated school districts the territory defrayed the total cost. The tiny isolated hamlets of the vast hinterland presented a special problem in Alaska which the territory met by permitting the establishment of schools for as few as 12 children between the ages of 6 and 16. At times a special school would take even fewer if local desire was sufficiently great to supply quarters for the teacher. Where the number of children was even less, the territory conducted the Calvert system of correspondence courses for home teaching.

More than 40,000 boys and girls attended the Alaska elementary and high schools in the year 1957-58. Of these about 34,000 attended the public schools, while the Alaska native service enrolled 4,657 and denominational and private schools enrolled 1,742.

Alaska's public-school system faces the problems common to all America: rapidly growing enrollments and consequent insufficiency of classroom space. This shortage was lessened materially in recent years by the federal Alaska Public Works act, which was enacted in view of the impact of defense construction and the population increase incidental to World War II and the subsequent "cold war." This act authorized \$35,000,000 over a decade, minus the substantial operating costs of the department of the interior's staff, provided matching funds were forthcoming either territorially or locally for community facilities such as schools, water and sewer systems, street paving and health centres. Much of this has gone into schools and has resulted in excellent high-school buildings in the larger communities, with auditoriums and gymnasiums and the most modern equipment. Only in one respect do the best Alaska high schools lag behind many such schools in the other states: not one Alaska high school has a swimming pool, a desired facility which mounting construction costs finally compelled the authorities to forego. Yet indoor swimming pools are probably needed more in Alaska than elsewhere: first, because so large a part of the population lives by and from the sea and the ability to swim even a few strokes often saves a life; and second, because the long winters increase the need for indoor exercise and recreation.

While Alaska has recently had problems in recruiting teachers, they are relatively less serious than in many states because of Alaska's long-standing policy of paying teachers adequately. For many years teachers' salaries were higher in Alaska than they were in most other parts of the United States. Lately this disparity has diminished because of increased salaries elsewhere. Teachers' salaries in Alaska are based on experience and length of tenure and they vary with the region, being higher in the areas remoter from Seattle, where higher transportation costs bring higher living costs. The 1957 legislature fixed teachers' salaries in the first division at from \$4,500 to \$6,900; in the third division from \$4,900 to \$7,300; and in the second and fourth divisions and in the third division west of the 152nd parallel, from \$5,200 to \$7,600.

Every school district also has the right to increase the territorial scale. Fairbanks, for instance, augments the scale for its teachers, principals and superintendent. A teacher with a minimum of training in his or her first year would receive \$5,200 under the territorial scale; Fairbanks pays \$6,000. A teacher with a master's degree in his twelfth year of teaching is entitled to receive \$7,600 but gets \$9,200 in Fairbanks. Principals' salaries are higher in the same proportion. In 1958 Fairbanks paid its superintendent of schools, a highly experienced educational administrator, \$15,500, or about 64% above the scale. The territorial school system has also taken over vocational rehabilitation for physically disabled adults, matching federal funds. Its success may be judged, for example, from an increase in earning power of 49 rehabilitees, from \$10,192

before rehabilitation training to \$182,204 after training.

Alaska's public-school system is one of the best in the nation, despite difficulties of costs and distance not found elsewhere. It is as good as it is because the people of Alaska want it to be so. Their legislatures represent that public attitude in granting invariably the increased demands of the department of education, and they tax themselves increasingly to be able to do so. Their performance illustrates what Alaskans have done and can do in a major field of activity in which they have full authority and responsibility.

Though racial integration is total in all territorial schools, the interior department's responsibility for the education of the "natives" has in part continued. While it was planned in the late 1940s gradually to transfer the bureau of Indian affairs' schools to territorial control with a target date for completion tentatively set for 1960, the program was halted in 1954 after 22 day schools, including all those in southeastern Alaska, had been transferred. The territorial authorities considered the remaining school buildings deficient and were unwilling to proceed until the federal government, whose responsibility they were, put them into first-class shape. So the Alaska Native service still operates 80 day schools in western and northern Alaska communities that are almost wholly "native," with a school enrollment in 1958 of 3,773. The teacher function differs from that in the territorial schools. It extends beyond the classroom and school hours and beyond the school population. The teachers, usually a married couple, are counselors to the adults as well as to the children, and they keep an eye on the whole village's welfare, performing various extra-curricular services arising from that broader responsibility which varies in relation to the population's cultural status.

There is also the Mount Edgecumbe co-educational boarding school for "native" children of high-school age on Sitka bay, whose emphasis is on vocational training. It had in 1958 an enrollment of approximately 650, drawn from all parts of Alaska. A boarding school for more than 250 younger children also is in operation near Wrangell.

Higher Education

Until recently there was only one institution of higher learning in Alaska. Established as a land-grant college by act of congress March 14, 1915, it was the Alaska Agricultural College and School of Mines, and was located five miles west of Fairbanks. The opening was delayed seven years, in part because absentee interest lobbyists blocked the necessary territorial appropriations for what they decried as a needless luxury. The college opened for instruction in September 1922, with six students. To James

MODERN GRADE SCHOOL at Anchorage. In the background are the Chugach mountains



Wickersham, Alaska's delegate in congress, belongs the credit for the legislation which established it and to Charles E. Bunnell, school teacher, federal judge and the college's first president, the credit for keeping it alive for 25 years.

His was a constant struggle for funds. The legislature continued unsympathetic and parsimonious. Congress declined to appropriate funds which under a variety of acts every land-grant college was authorized to receive. Nevertheless despite its penury, an inadequate and shabby plant and a wretchedly underpaid faculty, the quarter-century of Bunnell's leadership was fruitful and in keeping with the simplicity and ruggedness of the frontier. Many students, like the college, were impecunious. Bunnell made it possible for any boy or girl who wanted a college education to get it by working his way. Tuition was free. If the student could borrow or scrape together the few hundred dollars for board and lodging to carry him through his freshman year, remunerative summer employment and campus chores took him the rest of the way. *Ad summum* was the college's motto and the heights of graduation were attained by hard ways. What the college could not supply in academic excellence and creature comfort it made up in character building.

It became the University of Alaska in 1935, and its outlook became brighter after World War II. Congress began making the appropriations for agricultural research and extension which it had long withheld or reduced (without restitution of the missing amounts); it established the Geophysical institute on the campus and through the Alaska Public Works act made it easier for the university to start building a respectable plant. Likewise the Alaska legislature, having enacted an adequate revenue system in 1949, was able to grant the university what it requested for operation and to match the federal funds for new construction. Various scholarships became available, which by 1958 numbered 70.

When a record enrollment of 645 students returned in 1957, a faculty of 80 was undertaking an enlarged curriculum. Besides the usual offerings of arts and letters, languages and social sciences, education, business administration and home economics, the original emphasis on agriculture and mining was being amplified by growing departments in the applied sciences, especially civil, chemical, electrical, geological, metallurgical and mining engineering. In certain fields the accent is on peculiarly Alaskan resources, an entire department, for example, being devoted to wildlife management. There is a great diversity of extracurricular activities.

Expanding needs, Alaska's vast distances and regional variations called for the establishment of university branches. Those requirements have been met, incipiently and inexpensively, by community colleges, created by act of the 1953 legislature which vested their control jointly in the University of Alaska and the independent school district in which the college is located. They cater (1) to the varied educational desires of the working young persons out of high school who want to start their college education but cannot afford full time for it, providing for them the junior college equivalent of 13th and 14th grades; (2) to many who desire some specialized training in a particular field; (3) to adults who want to resume or continue their education. The curricula are divided into academic courses for which credits are given at the university, and vocational or interest courses scheduled in response to demands which are ends in themselves. Faculties are recruited locally and qualified instructors have been available. The costs, chiefly for teacher remuneration, are met principally by fees for each course and expenses are kept down by using available quarters, such as school classrooms during non-school hours or other public buildings.

Anchorage in 1953 and Ketchikan in the following year initiated their community colleges, Juneau-Douglas in 1956 and

Palmer in 1957. The prompt and substantial matriculation, totaling in 1958 approximately 1,600 in the four colleges, evidenced the communities' interest in these new locally formed institutions.

Sheldon Jackson junior college in Sitka spans virtually the entire educational effort since Alaska became a United States territory. Established in 1878 as a boys' school by the Rev. John Green Brady, Presbyterian minister, later becoming co-educational, it became a high school in 1917 and a junior college in 1944. A missionary enterprise, originally intended for "native" students only, it is now open to all races. It has greatly expanded its plant and curriculum and diversified its enrollment, which consisted in 1958 of about 150 students of whom about one-third were white, one-third of mixed white, Indian, Eskimo and Aleut blood and one-third of pure aboriginal stock. It operates a radio station and provides both terminal education and college preparation.

Another denominational institute of higher learning was scheduled to be opened in 1960. This was the Alaska Methodist university, whose 242-acre campus in one of the outlying areas of Anchorage was dedicated in June 1958. To the funds raised in the other states for this project, the people of Anchorage subscribed \$700,000.

Communities

Nearly all Alaskans live in communities. Farming, which in the other states accounts for the rural population, spread over and occupying most of the land, is in Alaska limited to the Tanana and Matanuska valleys and a bit in the narrow strip along the west coast of the Kenai peninsula. Hence the division between urban and rural scarcely exists in Alaska, though many communities are small, being only villages or even hamlets. Between them are vast, uninhabited spaces of national forest or public domain. Suburban areas have sprung up near the larger cities along such highways as lead out from them. A few homesteaders live apart. Along the few principal highways where some federal bureau has not made settlement too difficult, a fringe of habitation has sprung up.

Thus Alaska is essentially urban and villageous. But few of its communities are connected by road with each other. The sea was long the only thoroughfare, with canoe, sailing vessel, motorboat or steamer the means of travel between coastal settlements. In the sparsely settled interior, navigable rivers were routes in summer and dog teams furnished the transportation in winter. Mail (now all air-borne) was long delivered by those means, and today one dog team mail delivery survives on St. Lawrence Island, carrying the plane-brought mail from Gambell to Savoonga. Automobile travel is extraordinarily high considering the relatively little highway mileage. There was in 1957 a total of 67,801 cars, or about one motor vehicle for every three Alaskans.

There are about 30 incorporated municipalities in Alaska. The larger cities, except Juneau, have adopted the city-manager form of government. Nearly all, except Juneau, own their public utilities. All except Anchorage use the sales tax to finance local improvements. Good hotels exist in nearly all towns, the most modern hostleries being in Juneau, Anchorage and Fairbanks. Alaskan communities differ collectively, in addition to their isolation, from stateside cities and towns in that they experience growth or shrinkage depending on some economic factor generally beyond local control. The growth may be tremendous as in Anchorage, or the shrinkage may be great as in the ghost towns, or even total as with some mining communities which have vanished. For the same reasons some Alaskan communities remain stationary.

Coming north from the states the first community in Alaska is Metlakatla on Annette Island. It is unique. In 1887 William Duncan, a Scottish lay preacher who had been sent as an Anglican



Wrangell, an important fishing centre of southeastern Alaska. Other Industries are lumbering and transportation (the harbour is open all year)



Above: Anchorage, on a tributary of Cook Inlet, south central Alaska, is the largest city and the transportation and communications centre



Juneau, capital of Alaska, located on Gastineau channel, about 1,000 ml. northwest of Seattle, Wash. Juneau is the seat of local and federal government agencies and is a major distribution centre for Alaska

CITIES OF ALASKA

Below: Fairbanks, mining centre of Alaska, located near the geographical centre of Alaska on the Chena river. It is the second largest city



missionary to the Tsimshian Indians on the northwest coast of British Columbia, fell out with his bishop and secured permission from the United States government to move his flock to Alaska. Congress set aside Annette Island as a reservation. Duncan was a dedicated leader and teacher and in the next third of a century he established Metlakatla as a model Indian community, self-sustaining through a fishing fleet, salmon cannery, sawmill and hydroelectric power plant.

Nine other villages, almost wholly Indian, are scattered through southeastern Alaska: Hydaburg on Prince of Wales Island, which is notable as the only village inhabited by Haida Indians, all the others being Tlingit; Klawock and Craig, likewise on Prince of Wales Island; Saxman, two miles south of Ketchikan; Kake on Kuiu Island; Angoon on Admiralty Island; Hoonah on Chichagof Island; Yakutat, the westernmost Tlingit village, on Yakutat bay; and Klukwan, 20 miles inland from Haines. All but Klukwan are coastal, deriving their livelihood from fishing, cannery work and some logging.

Ketchikan, known as the "first city" because it is the first Alaskan port at which northbound steamers stop, is also called the salmon capital of the world. More salmon is canned there than anywhere else, and its economy is based thereon. It also houses the Fishery Products laboratory, financed by federal and territorial funds. It has a cold storage plant and a large lumber mill, and to these resources a pulp mill was added in 1954, Alaska's first. Its municipal light plant furnishes current at one of the lowest rates in the United States. The city supports one daily newspaper, one television station and one radio station. Ketchikan stretches five miles along Tongass narrows and up the very steep hillsides, the houses rising tier upon tier. Less than 40 miles of highway extend along the shore to residential suburbs north and south. Yet with this limited mileage, the area population of about 8,000 utilized 2,493 motor vehicles in 1957. In that year Ketchikan was one of 11 "all-America cities" chosen in the annual contests originated in 1949 by the National Municipal league.

Halfway up the panhandle lie Wrangell and Petersburg, 50 miles apart on the islands of Wrangell and Mitkof. Wrangell is an old community, being before the coming of white men a village of Tlingit whose descendants still live there. The Chief Shakes community house has been restored as a monument, and with its surrounding totem poles, recalls the culture of those earlier days. Both Wrangell and Petersburg depend on the same resources: halibut, salmon, shrimp, the canneries and cold storage plants which process these fisheries, sawmills and logging operations. Yet misfortune has dogged Wrangell. Fire has repeatedly destroyed large parts of it. By contrast Petersburg is prosperous. It is reputedly one of the wealthiest communities per capita in the nation. Each town publishes a weekly newspaper.

Sitka, the ancient Russian and until 1906 the American capital, combines a superlative natural setting with great historic interest. Its level townsite, encircled to landward by sharply rising 5,000-foot peaks, fronts on an island-studded bay at the northern end of which rises Mt. Edgecumbe, the only volcano in southeastern Alaska. St. Michael's cathedral lifts its bulbous spire and dome, both surmounted by the double-barred Greek cross, above the town. The church has probably the finest collection of ikons extant. Sitka National monument, a grove of tall spruce, contains 16 of the tallest totem poles. Facing Jamestown bay is Sheldon Jackson junior college and across a narrow channel is the Mount Edgecumbe school. The Pioneers home with its cheerful red-tiled roof is the first edifice to greet the visitor. In front of it is the only statue in Alaska—"The Pioneer." To Sitka's economic dependence on fisheries, to which its crowded small-boat harbour bears witness, a pulp mill was being built in 1958. There are a daily and a weekly newspaper and two radio stations. Sitka har-

bours a substantial Tlingit community. Much of the fragrance of the past lingers about Sitka, and each year on Alaska day, October 18, the anniversary of the raising of the Stars and Stripes, Sitkans revive their history in pageantry.

Juneau nestles in a small triangular sloping valley, two sides bounded by steep mountain walls, the third opening on the Gastineau channel, an arm of the Inside Passage. Through the apex of the triangle rushes Gold creek, which gave Juneau birth. Mt. Juneau, on the northeast, a sheer rock wall for over 3,000 feet, dominates the scene. But the most impressive man-made structure is still the 12-story mill of the Alaska-Juneau gold mine on the face of the vertical cliff that extends southward from the town. The mill and the mine behind it have been closed for 15 years. A low-grade quartz mine, it could not sustain the steadily increasing cost of everything while the price of gold remained fixed. Thus the capital furnishes a permanent exhibit of the ephemeral aspects of a mining economy.

Fishing, as an industry, hangs on. Juneau's small-boat harbour shelters the vessels of trollers, seiners, gill netters and sport fishermen. A cold storage plant services the catch. There is a lumber mill. Yet Juneau's livelihood now depends chiefly on its being the seat of the federal and territorial governments. But their personnel and payrolls have been diminished by the removal during the last six years of various federal agencies to the states and to other parts of Alaska. Nevertheless Juneau's habitations have extended outside the mountain-enclosed triangle, along the Glacier highway and across the channel to Douglas Island, which is connected with the mainland by a steel bridge, a new suburb immediately opposite being known as West Juneau. The town of Douglas lies two miles farther south.

The capital contains the territorial museum with a rich anthropological, mineralogical and biological collection, as well as the famed Wickersham library of Alaskan and a good public library in a building of its own. It supports a daily and a weekly newspaper, two radio stations and one television station and two motion-picture theatres.

The life of Haines, on the west shore of Lynn canal, has been interwoven with distantly established military policy. Chilkoot barracks, rendering its last service during World War II, was declared surplus and sold to a group of young veterans who have since struggled to maintain it with a variety of enterprises, including arts and crafts and tourists. But World War II brought a branch of the Alaska highway to Haines and made it a gateway for Juneau residents who wished to take their automobiles to interior Alaska and were enabled to do so by a ferry established by the territory in 1952. Defense requirements also made Haines the entry of a pipeline through which tanker-brought liquid fuels are pumped to Fairbanks. A salmon cannery aids the local economy.

Skagway, at the end of the Inside Passage, is the terminus of the Canadian White Pass and Yukon railroad which extends 112 miles to Whitehorse, capital of the Yukon territory, only the first 20 miles being in Alaska. The railroad is the town's chief mainstay. Canadian steamers take their passengers to Skagway for a brief stay. The town contains a "Days of '98" museum. Nine miles of highway, hewn out of granite cliffs winding along the shore, connect with the Dyea valley, where the bustling camp from which gold rushers headed for the Klondike is but a memory. Skagway people hope to connect with the continental highway system and have begun building a road toward the boundary.

Cordova, once a busy port, between Orca inlet on Prince William sound and lovely Eyak lake, now depends wholly on fisheries—salmon, crabs, clams—and their canning. The only major community in central Alaska not linked by highway has been seeking for years to achieve that connection by a road over the water-level right of way of the Copper River and Northwestern rail-

road which was abandoned when the Kennecott mine closed in 1938. By 1958, one-third of the needed mileage, 39 miles to the famous "million-dollar" bridge, had been completed. The bridge, whose feat of construction was vividly described in Rex Beach's novel, *The Iron Trail*, spans the widening of the Copper river between Miles and Childs glaciers. Completion of the Copper River highway would bring tourists into this highly scenic part of Alaska, as well as open up a heavily mineralized area.

Valdez, at the head of the Valdez arm, a narrow inlet extending northeasterly from Prince William sound, owes its existence to being the coastal point nearest to interior Alaska. It became the entry for a substantial number of Klondike gold rushers, and Capt. W. R. Abercrombie, of the U.S. army, recommended construction of a military trail from Valdez to the Yukon, an "all-American route" which would obviate crossing Canadian territory. The trail was built, with a telegraph line along it. The Valdez trail became a winter sled road, a summer wagon road and ultimately the Richardson highway from Valdez to Fairbanks. The route has been Valdez's mainstay and lifeline. The population and the economy of Valdez have risen and fallen to the fluctuating extent that the route has been used for freighting to the interior. In 1958 Valdez was at one of its low ebbs, since most of the freight which had passed through it earlier in the decade was passing through Seward. Valdez is a typical example of the uncertainty which besets Alaskan communities whose prosperity or poverty is determined by distant events beyond the control of the local inhabitants.

Seward, at the head of long and deep Resurrection bay on the Kenai peninsula, derives its livelihood from being the ocean terminus of the Alaska railroad, and having also a highway connecting it with the interior. Longshoring is its principal payroll, and its well-being depends largely on the general prosperity of central Alaska and the amount of freight shipped through. The oil strike in 1957 in the Kenai peninsula also foreshadowed increased activity with the prospect of a pipeline from the oil fields to Seward and the storage tanks there.

The Kenai peninsula is a region of great scenic beauty, abundant with trout-filled lakes and streams. It is also famed as a moose habitat. Its recreational possibilities are limited, however, by the restrictive policies of the U.S. forest service which controls the eastern half of the peninsula by virtue of its being in the Chugach National forest, while the remainder, except for a thin fringe of land permitting human settlement along the west coast on the shore of Cook inlet, is held out of much use by being withdrawn as the Kenai National moose range, 2,000,000 acres in extent, managed by the interior department's fish and wildlife service. Both these federal agencies have hindered the optimum utilization of these vast areas.

The Sterling highway along the peninsula's west coast through Kenai, Kasilof, Ninilchik and Homer has, however, brought considerable development, homesteading and growth to the vicinity. Homer, a semirural area with a little more space for expansion, fronting westward on Cook inlet and southward on Kachemak bay, has one of the mildest climates in Alaska, opportunities for agriculture and fisheries and lignite available for fuel. Its fine new motels have recently been bidding successfully for vacationists. Finally, Seldovia, on the south shore of Kachemak bay, depending on fisheries and chromite mining nearby, lacks a highway connection.

Kodiak, in addition to its fisheries, derives much economic support from the adjacent naval base. It is also the starting point for brown bear hunts, for which Kodiak Island is famous.

Anchorage, Alaska's metropolis, was winner of Alaska's first all-America city award in 1956. While it has been favoured by good fortune through successive bonanzas, it has taken advantage of them with energetic pursuit of nearly every opportunity. One



PASSENGERS LEAVING THE TRAIN AT SKAGWAY, southern terminus of the Canadian White Pass and Yukon railway

contributing factor has been the publication there of two daily newspapers whose differing viewpoints have provided a healthful diversity of news and opinion. Also two television and three radio stations and the best public library in Alaska (gift of a public-spirited businessman who felt an obligation to return to Alaska a part of the competence he had accumulated there) keep the people of Anchorage as well informed as any people in the nation. In the greater Anchorage area virtually every Alaskan resource is to be found: fisheries, minerals (including coal), agriculture, timber, hydroelectric power, tourist potential—with sport fishing, hunting, swimming, mountain climbing, skiing and superb scenery easily accessible—and now oil.

The only planned community in Alaska, on a level plain of generous dimensions, laid out in rectangular pattern with broad thoroughfares, Anchorage had an estimated 1958 population within the city limits of 32,000 and in the greater Anchorage area of 60,000 (exclusive of military personnel).

Anchorage is the seat of the third judicial division, the headquarters of the Alaska railroad, the Civil Aeronautics administration and the Alaska Housing authority. Adjacent is the Alaska military command with the largest troop concentration in Alaska. Indeed, Anchorage has more of federal government, measured in both personnel and payroll, than the capital Juneau, and a substantial territorial contingent as well. It is the hub of transportation, served by nine airlines, six of them local and two connecting with the states; it is the gateway for oriental and transpolar flights. On the ground the Alaska railroad takes passengers and freight north and south; the Glenn, Seward and Sterling highways take them by bus, truck or passenger car to the east, south and southwest. Anchorage is now reaching for a fourth form of transportation—maritime—by converting its waterfront into a port, and has bonded itself for the purpose.

Anchorage is thus the economic dynamo of Alaska. It is the retail market for south-central Alaska. It is the territory's medical centre with, in addition to its own Providence hospital, a 400-bed native hospital, the Arctic Health and Research centre and a projected \$6,000,000 institution for the care of Alaska's mentally ill. It bids fair to be the new state's cultural capital, having an annual music festival established in 1956, a symphony orchestra and community chorus, art exhibits, amateur theatricals and

a community college with the largest enrollment of any territorial educational institution.

Anchorage's greatest obstacle has been its constriction by federal reservations. The 6,800,000 acres of Chugach National forest and Kenai National moose range block human expansion to the southeast, south and southwest. About 50 military, railroad, C.A.A. and other reservations obstruct development east, north and northwest, with 40 more thwarting growth within the city itself.

Fairbanks, affectionately called the "golden heart of Alaska," seat of the fourth judicial division, northern terminus of the Alaska railroad and of the Alaska and Richardson highways, is Alaska's second largest city. Gold has been its mainstay for over half a century. It is adjacent to the northern defense bastion, Ladd field, to the east and to the University of Alaska to the west, and is important as the centre from which the development of subarctic and arctic Alaska proceeds. It is the trading and transportation hub of northern Alaska. It supports a daily newspaper and a weekly newspaper, and has two radio and two television stations.

Nome, famed in Alaska's romance, has dwindled from the days when 10,000 persons sought gold on nearby tundra and beach. Since then it has served as the warehouse and shopping centre for the gold miners scattered through the Seward peninsula. Unconnected with the rest of Alaska by highway, Nome, until a few years ago, was isolated eight months of the year between the departure of the last steamer in October and its return in June when the ice went out of Bering sea. Now airplanes carry passengers daily to and from Anchorage and Fairbanks; also air freight, an improvement, since ships lying off harbourless Nome had to lighter their freight ashore at the fantastic cost for that last half-mile of one-half the total charges of the 1,500-mile haul from Seattle. Daily air cargoes reduce the heavy inventory previously required by once-a-year freighting.

Nome is the headquarters of the second judicial division. About half the population is white, which is nearly the total white population of the division, the remainder, in about two score of villages, being chiefly Eskimo. Nome hopes for new outlets, east by highway to Fairbanks, west by plane, when the resumption of cultural relations with the U.S.S.R. results in plane travel between America and Siberia. Nome expects to be the American port of entry and exit for this travel, and an Alaskan airline has already made application for such a route.

Resources and Industry

Alaska's economy until recently was wholly of the colonial, extractive type. Alaska's raw materials were shipped "outside." Little manufacturing and processing, except canning of fishery products, took place within the territory. Preferential steamship freight rates made prohibitive the shipping of locally manufactured products to other Alaskan cities. For example, an Anchorage soft drink bottler could not profitably market his bottled goods even in nearby Alaskan ports, because the steamship freight rates to them from Seattle would be lower for the same product. Thus to the higher costs of his operation because of high freight rates for his imported materials, would be added the discriminatory outbound tariffs, giving his competitor "down below" an unsurmountable advantage. Thus was Alaskan local enterprise throttled while Seattle interests were favoured.

Before statehood was achieved in 1958, every chamber of commerce on the Pacific coast from Tacoma to San Diego, but one, had endorsed statehood for Alaska. Seattle's chamber, which had endorsed statehood for Hawaii with which it had few commercial ties, was the exception. Its Alaska affairs were channeled to a so-called "Alaska committee" dominated by a handful of men who while successfully exploiting Alaska appeared to view Alas-

kans much as King George III and his ministers viewed the inhabitants of the 13 colonies. Seattle was the seat of Alaska's economic colonialism as Washington, D.C., was its political headquarters.

Fisheries.—Salmon, long the principal fishery and chief Alaskan industry, has been declining for 23 years to one-third of what it was at its peak. It is still an important part of Alaska's economy and the major, if inadequate, prop of most of Alaska's coastal communities. Its decline has been aggravated recently by the high-seas catches of Japanese fishermen which were permitted by a 1952 treaty, in the drafting of which the affected Alaskans had no voice and which was made by the U.S. negotiators who lacked knowledge of the pelagic habits of the Pacific salmon. Too late it was discovered that salmon, spawned in American waters, migrate in large numbers west of the 175th meridian of west longitude, and beyond this line the treaty permitted unrestricted Japanese fishing. It was not intended that American-born salmon should be subject to Japanese capture. But it happened.

Apart from its responsibility for the decline of the runs through maintenance of fish traps, the industry is wasteful. Approximately 30% of each fish as it is processed, including head, viscera, skin, fins, tails and female's eggs (roe), is dumped into the sea. The roe, sold in eastern specialty food stores and served in deluxe hostelry as an imported delicacy—red caviar—deserves a better fate. A less prodigal industry and a greater concern for conservation by the federal regulatory agency might lead to utilization of the rest of the salmon for oils, feed or fertilizer.

Herring, another Alaskan fishery, likewise a luxury import from abroad, could be preserved for human consumption rather than, as now in Alaska, used principally for reduction to fertilizer. In no other country would such waste be tolerated.

The next important fishery, halibut, by contrast, has been preserved by international agreement. Clams, Dungeness crabs and shrimp are lesser but excellent products, canned in Alaska. The most favourable development is the new king crab fishery. The meat of these giant crabs, three to five feet in diameter, is now widely sold in the other states as Alaska king crab, and this has become a multimillion dollar industry. Cold storage plants in coastal towns are substantial enterprises for fisheries other than the salmon caught for canning.

Mining.—Mining, long Alaska's second industry, may be changing its character. The \$2,000,000 expended in 1957 in exploration, twice the amount spent in 1956, could foreshadow replacement of gold as the dominant mineral. Gold production had actually been relegated to second place in 1956 by more practically useful though less glamorous sand and gravel. But gold regained first place in 1957, with coal second, while sand and gravel was third and platinum ranked fourth. Mercury had risen to new heights from a mine reported the largest quicksilver producer in the United States. Chrome production continued and, in small quantities, that of antimony, asbestos, copper, lead, tungsten and jade. Uranium had been discovered and several barge loads of ore were shipped out. Mining of a large body of magnetite near Klukwan appeared imminent.

Actually most strategic and critical minerals exist in Alaska. In addition to those mentioned above there are beryl, cadmium, celestite, cobalt, columbite, corundum, graphite, manganese, mica, monazite, rutile, sulfur, talc, tantalite, tin, vanadium, zinc and zirconium. Their substantial exploitation awaits more favourable market, transportation and other conditions. In some instances government policies prevent such exploitation. A federal stockpiling program for mica applies in the other states, but Alaska mica is excluded. The federal government has withdrawn support of tin mining in Alaska, though it has the only known tin deposits in North America. Canadian interests wanted to mine sulfur on Makushin volcano, but were told the area was in a military with-

drawal. The land was later released, but it was too late. Opposition by the national park service long prevented the taking of pumice, huge amounts of which were ejected by volcanic eruption in Katmai National monument. It was wanted to start local manufacture of pumice blocks, a light, strong, fire-proof building material.

"Aboriginal claims," long unsettled through federal inaction, precluded clear title to some mineral lands and prevented investment and operation.

However, the subsoil has produced a long-hoped-for accession to Alaska's economy, with the strike of oil on the Kenai peninsula in July 1957. Speed-up of exploration by the nation's principal oil companies, and filing of oil leases on over 25,000,000 acres of public domain, followed in the next nine months. Following precedent in Alaska, this important development was impeded by bureaucratic interference in Washington, delaying action for months. Seismic and drilling crews on the ground were compelled to be idle, greatly augmenting the cost of operations and diminishing the federal and territorial revenues.

The basis for this obstructionism was that the oil structure from which the first well was derived lay largely under the Kenai National moose range, which is 2,000,000 acres in extent and occupies two-thirds of the Kenai peninsula. This area was withdrawn in 1941 by Secretary of the Interior Harold L. Ickes over Alaskans' protests and turned over to the management of the fish and wildlife service. Once considered to be the habitat of the largest moose (now also found elsewhere in Alaska), it contains only an estimated 4,000 moose or one-tenth of Alaska's moose population. One of Alaska's most promising areas for settlement, human habitation within it is forbidden. The 500-acre allotment per moose contrasts with the 160-acre quarter-section limit permitted a homesteader and his family.

Fish and wildlife officials opposed, as injurious to the moose, oil exploration and drilling on the range. They were abetted by some theoretical, professional conservationists in the national capital. Neither had been visibly disturbed by the annual slaughter of several hundred moose by another interior department agency, the Alaska railroad. Alaska sportsmen and conservationists, more familiar with the habits of the moose and no less concerned for intelligent game management, protested that oil exploitation would in no way harm that regal mammal. They urged that for the existing highly limiting federal policy, one of "multiple use" of the land be substituted. But restrictive regulations to govern exploration and drilling were still "under consideration" by department officials after nine months of delay. If the geologists' assumptions are correct and federal officialdom becomes less obstructive under statehood, oil may supersede all other natural resources as Alaska's economic mainstay.

Timber.—For nearly half a century after the establishment of the vast Tongass and Chugach National forests, totaling 20,800,-



ALASKA'S resources

000 acres, the U.S. forest service prevented, except for a few lumber mills, utilization of Alaska's virgin timber resources. It prescribed periodic revision of stumpage fees, the uncertainties of which precluded the investment of the millions of dollars required for a pulp or paper mill. While United States capital was regularly establishing such mills in neighbouring British Columbia, the unutilized hemlock and spruce in Alaska's national forests were conspicuously overmature, decaying and dying stands. Conservation was being flagrantly flouted by their wasteful non-use. Mounting pressure of public opinion in Alaska and the increasing need for wood products elsewhere finally changed the forest service's attitude. Alaska's first mill resulted in 1954, at Ketchikan, costing \$54,000,000 and with a 500-ton daily capacity. A second mill under construction at Sitka with a 350-ton capacity was to be in operation in 1960. Two more mills, at Wrangell and Juneau, were in prospect; the latter possibly a newsprint mill, if the economics of the required hydroelectric development could be met.

Incidental to these pulp mills was the extension of logging through the Tongass National forest to supply them. Another useful by-product was a mill in Ketchikan to process the two varieties of cedar, the Western or red cedar and the valuable Alaska yellow cedar, which were logged with the hemlock and spruce required for pulp manufacture. This timber development brought to Alaska its first important year-round industry, raised the value of forest products to about \$35,000,000 annually, furnished employment to several thousand men in mills, logging camps and collateral activities and produced new tax revenue. Management of the forest on a "sustained yield" basis, with a present estimated annual cut of 500,000,000 board feet and concomitant improvement of the timber stands, portends perpetuity for this industry and a stability to Alaska's economy which it has lacked.

Furs.—Alaska's most important fur resource, that of the Pribilof fur seals, has been of no benefit to Alaskans except for



Emptying a fish trap along the Pacific coast near Ketchikan. The fishing industry is Alaska's chief source of income



Gold prospectors washing a gulley for ore-bearing gravel. Gold is the most important mineral of Alaska, but the amount mined has declined

ALASKA'S RESOURCES AND INDUSTRY



Dairy cows on a farm in the Matanuska valley which, together with the Tanana valley, is the chief agricultural area of Alaska. Dairy products account for almost half the value of the annual farm production



Felling a large Sitka spruce in Tongass National forest, southeastern Alaska. Virtually all of the timber cut in Alaska comes from the Tongass and Chugach National forests



Pulp mill at Ketchikan, Alaska's first. The modern processing plant went into operation in 1954. Additional mills were planned for Wrangell, Juneau and Sitka. When completed the new mills and other existing sawmills were expected to require 500,000,000 bd.ft. of timber annually

the few hundred islanders whose livelihood is based on it. The operation in Alaska has been conducted wholly by the federal government. For the first 40 years after the cession it was a monopoly of San Francisco concessionaires. Mismanagement and pelagic sealing (the taking of seals on the high seas) chiefly by nationals of other countries, nearly exterminated the herd. It brought about international treaties to forbid the destructive practice and a sharing with Canadians, Russians and Japanese of the fur seal peltries. In consequence the operation of the seal islands has of necessity remained under federal control.

The herd, after several years of protection, has gradually been restored to its optimum size of around 4,000,000 seals, with a yearly harvest of about 80,000 pelts, and has become likewise a financially profitable operation—a notable triumph of conservation. The dressing takes place in St. Louis, Mo., historically a fur-trading centre, by a company which has long specialized in and perfected the craft of preparing the raw sealskins for making into coats. The skins are then sold at auction. The lack of participation of Alaskans (except for the Pribilof residents) in either the revenues derived or in the processing, led to a provision in the statehood act by which 70% of the net revenues (estimated in 1957 at about \$1,500,000) will go to the state of Alaska.

Other furs are a factor in Alaska's economy, chiefly by giving a livelihood to trappers, an activity conveniently available as a rule during the winter when other pursuits are suspended. The fur bearers include muskrat, beaver, mink, marten, fox (white, red, cross and blue), wolverine, lynx, land otter, weasel and wolf. Mink and fox ranching, formerly active, have declined because of high costs as compared with similar enterprises in the states.

The most valuable of all the fur bearers, the once abundant sea otter, was virtually exterminated about the turn of the century, and its rigid protection since then has not brought it back. It has lately been suggested that the experimental fur farm near Petersburg, operated jointly by the University of Alaska and the U.S. department of agriculture, whose biologist director, James Leekley, had raised marten (American sable) in captivity, an unprecedented achievement, be given the assignment of trying to restore the sea otter.

Agriculture.—Agriculture, while wholly for Alaskan consumption to date, has an important potential in replacing costly food importations from the states. Farming in Alaska has become a \$3,000,000 per year activity. Twenty years ago, a condensed milk can, its top pierced by two holes, was found on the counters of every Alaskan eating place and on the dining table of every home. Now dairies, adjacent to almost all sizable communities, supply them with fresh milk. Dairy products account for half the annual agricultural income, or about \$1,500,000.

Many Alaska areas are ideal for cattle raising. Beef ranching has started in the Tanana valley, at Homer, on coastal islands and at Kodiak. However, at Kodiak the brown bear is a continuing problem to the ranchers in a conflict which likewise engages them with federal officialdom. Sheep are raised on Umnak Island in the Aleutians and hogs in the Matanuska valley. Potatoes are Alaska's second crop, eggs and poultry third. Cabbage, cauliflower, peas and the root vegetables grow to mammoth sizes. Wheat, oats and alfalfa thrive. Strawberries are reputedly the largest on earth (Haines has a strawberry festival every year) and a great variety of other berries, including blueberries, huckleberries, raspberries and cranberries; are so plentiful that they are never fully harvested.

The Alaska farmer's problems are economic rather than agricultural. His original investment in house, barn, equipment and stock is substantial before he can harvest his first crop. Land, when he can circumvent red tape and acquire it from the public domain, is cheap, but clearing it is costly. Thereafter the cost of imported fertilizer and feed is extremely high. (There should

be an opportunity for some local production of both.) Storage facilities for produce are insufficient. Irrigation is needed in both the Tanana and Matanuska valleys where the rainfall averages less than 15 inches, but installing it is expensive and in certain parts of these valleys is prohibitive for local enterprise.

The Reclamation act which benefits the farmers of 17 western U.S. states has not been extended to Alaska. Yet in few places would it be more useful for irrigation, flood control and power generation.

Despite these problems, agriculture in Alaska will grow as growing population increases the market; as research, still in its early stages, meets the special and regionally varied conditions of sunlight, temperatures, rainfall, soil, insect control and fertilization; as storage facilities and irrigation are provided; and as the general handicaps that, under the now concluded territorialism, have affected all Alaska, such as high transportation rates, are overcome.

Hydroelectric Power.—The most abundant, most valuable and least utilized natural resource in Alaska is hydroelectric power. Less than 1% of its potential is developed. After a reconnaissance survey in 1952 of 72 power sites, selected from about 200 sites as sound from both an engineering and economic standpoint, the U.S. bureau of reclamation reported to congress that these could supply in excess of 50,000,000,000 kilowatt hours annually of firm power. This, the report stated, was the equivalent of one-fifth of all sales by all electric utilities in the 48 states the previous year, or an equivalent of the amount used there by 30,000,000 persons.

There has been some local hydro development to supply cities, Ketchikan being the most notable example. Juneau's light and power depends in part on the hydro plant of the Alaska-Juneau mine. Harnessing Blue lake back of Sitka is in process for the joint use of that city, the new pulp mill nearby, and the interior department's Mt. Edgecumbe reservation. There is a variety of scattered smaller projects to supply a single mine, cannery or sawmill. Some communities prefer diesel fuel to the generally available water resource.

The only substantial hydro power development as of 1958 was one which had harnessed Lake Eklutna, 40 miles north of Anchorage. It came as a result of the impact of World War II on the area and serves not only Anchorage, but as a stand-by for Fort Richardson and Elmendorf field, as well as two rural electrification co-operatives, the Chugach which supplies the burgeoning suburbs of Anchorage, and the Matanuska which serves the valley. The Eklutna project, built by the bureau of reclamation under a special act of the 81st congress in 1950 and completed in 1953, cost \$29,500,000, repayable over 50 years with 2½% interest. It has an installed capacity of 30,000 kilowatts and supplies about 143,000,000 kilowatt hours annually.

But even before its inauguration Eklutna's total capacity was pre-empted. So Oscar L. Chapman, secretary of the interior in Pres. Harry S. Truman's cabinet, authorized surveys on the Susitna river where a dam at Devil's canyon, midway between Anchorage and Fairbanks, with a capacity 11 times that of Eklutna, was projected. Unfortunately, with the change of administration, the project was dropped. Yet cheap power is essential if Alaska is to escape from its extractive, limited, seasonal economy, attract industry, increase its population and secure a back haul to the other states in the interest of lower maritime freight rates.

The coming of rural electrification to Alaska beginning in 1942, six years after its establishment in the states, was a boon to the outlying communities which without it would lack electric service. Rural Electrification administration co-operatives serve the Tanana valley, Homer, the outskirts of Kodiak and Juneau and Glennallen at the junction of the Glenn and Richardson high-

ways. But further hydroelectric development is necessary if the full benefits of rural electrification are to be realized in Alaska.

Tourism

But the greatest of all potentials is the tourist industry. Steamer travel for sightseers began in the 1880s, but was long limited to shipboard with stops at ports where freight was discharged. Later circle tours were added by train and bus over the Alaska railroad and Richardson highway, whose roadhouses to this day are attractive, typically frontier hostelrys, and river trips in stern-wheelers down the Tanana and Yukon rivers. Yet pioneer folk are not much interested in tourists. Not until 1951 did Alaska decide to get into that pleasant hosting in which every free country and every state now engages. So the legislature created the Alaska Visitors' association, supported by funds raised from the Alaskan public and matched two to one by territorial appropriations.

Besides the matchless scenery, Alaska has wildlife so plentiful that the visitor can see moose, caribou, mountain sheep and goat, brown, grizzly and black bear, even polar bear and walrus if he goes to northern Alaska, as well as sea lion and fur seal. Eagles, almost extinct in the states, soar aloft. Waterfowl abound. Whales spout and sound in the coastal waters. For the fisherman there are fighting Pacific salmon, and coastal cities stage a "salmon derby" each year with numerous prizes, contests to which anglers come from afar. For those who prefer fresh-water fishing, Alaska's lakes and rivers teem with rainbow, cutthroat and Dolly Varden trout of unparalleled dimensions (often over 30 inches long in the westward waters) or grayling, a no less sporty fish in the interior streams.

Alaska's flora are alpine in colour, variety and profusion; whole fields are riotously pink with shooting star; blue with lupin, monk's hood, gentian, bluebell, flag, forget-me-not (Alaska's flower) and wild larkspur; magenta with fireweed; mahogany

with bells of Indian rice root; vermilion or lemon with the two varieties of paintbrush; yellow with Iceland poppy or marsh marigold; or white with "Alaska cotton"—to name only a few.

Where else can the visitor hike through virgin forest, camp in solitude on high lakes where deer and moose come out at dusk, and at night only the plashing of the waterfalls breaks the stillness; or on a mountaintop watch the sunset rekindle into dawn? Where but in Alaska can he lift his eyes to the continent's greatest heights and to smoking volcanoes; see and hear the roar of great ice pinnacles crashing from tidal glaciers into fiords; see and hear the annual pent-up flood of glacier-imprisoned lakes break their ice dams? Where else can those who love the mountains and the sea have both and at one time? Where else under the U.S. flag can he see the midnight sun and the celestial fireworks of the aurora borealis? (Though not at the same time! Even Alaska cannot manage that!) Where else can he see the totem poles of Tlingit and Haida culture and watch the rhythmic dance of the Eskimo?

Alaska is so vast and varied that it could hold 100,000 visitors daily for a vacation season that can comfortably extend from May to October—and beyond for big game hunters—and become a \$250,000,000 industry. Nor are winter vacations excluded. New lodges are springing up. New accommodations are forthcoming. Three years after the cessation of Seattle's Alaska Steamship company's passenger service, two exclusively passenger ships chartered by local Alaskan enterprise were plying up and down the Inside Passage with a side trip to Glacier bay.

Alaska Highway

In addition to plane transportation, which has almost totally replaced passenger travel by ship between the 48 states and the 49th, is road travel over the Alaska highway. Constructed in great haste by the U.S. army engineers as a defense measure in 1942, originally known as the Alcan highway, its previously unsurveyed route was determined by the Canadian military authorities who

HIKERS IN TONGASS NATIONAL FOREST, overlooking Juneau



wished to connect airports built the previous year at various interior points. The highway begins at a frontier settlement called Dawson Creek 400 miles northwest of Edmonton and extends 1,221 miles to the Alaska boundary. At Tok Junction, 85 miles after entering Alaska the highway divides, one branch, part of the original highway, going northwest 213 miles to Fairbanks, the other branch, known as the Glenn highway, extending southwest 328 miles to Anchorage. The Dawson Creek starting point may now be reached from the 48 states by two routes: (1) from central Montana by way of Calgary and Edmonton; (2) from the state of Washington highway system over the so-called Caribou trail along the Fraser river to Prince George and thence by the Hart highway. The second is a highly scenic route, while the first passes through flat prairie. The Alaska highway is travelable at all times of the year. Accommodations within Canada are for the most part primitive and some summer travelers prefer to take sleeping bags and camp along the way. Within Canada the highway is unpaved, extremely dusty in summer and hard on tires.

However, immediately after the enactment of statehood, a bill to provide for paving the Canadian portion of the highway, with the United States and Canada to share the cost, was introduced in the U.S. senate by Sen. Richard Neuberger of Oregon. If the bill is enacted and when the paving is completed a tremendous increase in motor traffic by this route may be safely predicted. Within Alaska the highway is paved and roadside accommodations are of good quality.

The People and Their Way of Life

The character of a people is determined by heritage and environment. Approximately six-sevenths of the 210,000 Alaskans or their parents or grandparents came from the 48 states. They brought with them their habits, customs and beliefs. So Alaskan communities are typically American and, with local variations, the people act and live as they do in the states with some modifications brought about by the frontier environment.

The religious practices of Alaskans are as in the states except that while nearly all the Christian churches are represented, there is no synagogue in all Alaska.

The oldest church is the Russian Greek Orthodox, a legacy from the Russian occupation. The Alaska diocese, headed by Bishop Amvrossy at Sitka, still maintains 17 churches served by as many priests and 70 chapels served by "assistant-priest readers," which extend principally along the coast as far as Atka, Alaska's westernmost civilian settlement. The members are for the most part Aleut stock and number an estimated 11,000.

Lutheranism was the only Protestant denomination represented in Russian America and, with the coming of Americans of Scandinavian descent after the cession, grew to be represented in Alaska by three of the church's bodies—the Evangelical Lutherans with 12 churches, the Missouri synod with 3, and the United Lutheran Church with 2. The 6,000 baptized Lutherans attend these, with an additional number who are unaffiliated.

The Presbyterians were the most active of the Protestant denominations in the early days of the American era, pioneering in missionary work and maintaining, perhaps for that reason, a certain degree of social prestige. There are 32 churches and 85 mission points with 4,800 communicant members and a constituency of 25,000. The church also conducts Sheldon Jackson junior college and a radio station at Sitka, a home for child care at Haines; it also operates planes, boats and a mobile highway unit.

The Jesuits in the 1880s were the first Catholic order to come to Alaska. It was made a vicariate apostolic under their guidance with its first bishop, Joseph R. Crimont, S.J., named in 1917. Alaska remained a missionary province until 1951, when the more populous southern area of 70,800 square miles was created the diocese of Juneau and the Rev. Dermot O'Flanagan, previ-



QUAKER MISSIONARY pushing his boat into shore at the Eskimo village of Noorvik, northwest Alaska

ously pastor of the Holy Family church in Anchorage, was consecrated as its first bishop. The remaining 510,000 square miles of Alaska continued as a vicariate, the Most Reverend Francis D. Gleeson, who had come to Alaska as first bishop in 1948, continuing as such with residence at Fairbanks. The Catholic population of the diocese is 13,000, of the vicariate an estimated 15,000. Thus the Roman Catholics represent the largest number of churchgoers affiliated with any one denomination in Alaska. The diocese has 11 churches, 11 chapels, 4 schools and 4 hospitals and is served by 15 priests and 41 nuns. The vicariate has 19 stations and 40 substations, day schools for both grade- and high-school pupils in Fairbanks, 2 boarding schools for "native" Alaskans, 3 day schools in smaller communities and the hospital at Fairbanks; it is served by 33 priests and 40 nuns.

Alaska is a missionary district of the Episcopal Church and its history, after the coming of the first missionaries to the Yukon in 1887, largely revolved for half a century around Peter Trimble Rowe, Alaska's first Episcopal bishop, who was consecrated in 1895 and served for the next 47 years. The present bishop, William J. Gordon, Jr., a North Carolinian by birth and education, is unique on two counts: after his election in 1948, he had to wait six months for consecration because he was only 29½ years old, the youngest bishop in the history of the church; and he flies his own plane, about 45,000 miles a year, to visit his far-flung missions, literally as well as figuratively a "sky pilot." The church now has 4 parishes in Alaska, in the 4 principal cities, 26 missions and 18 outstations, with 28 clergy serving 7,400 baptized members.

The Methodist Church has shown an increasing interest in Alaska in recent years. It early established a mission at Unalaska, which was later transferred to Seward as the Jessie Lee home for children. It was a 14-year-old native boy in this institution, Benny Benson, who proposed the design of "eight stars of gold on a field of blue," or the Great Bear constellation and North star, which was adopted as Alaska's flag. The Methodists have 24 churches in Alaska, conduct 3 hospitals and are establishing a



TLINGIT INDIAN TOTEM POLES near Klawock

university at Anchorage. Alaska is part of a larger diocese with headquarters at Portland, Ore., the residence of the bishop, A. Raymond Grant.

Of the four Baptist bodies in Alaska, it is interesting that the Southern Baptists, who began their work in the mid-1940s, have the greatest number of churches (26) with a membership of approximately 6,000. They also conduct four missions and a children's home. The Swedish Baptists have three churches, with 450 members; the Fundamentalist Baptists two churches with 60 members; and the American Baptists, who have been in Alaska longest, have a church, a mission, a children's home and a hospital.

Other denominations represented in the larger communities are the Society of Friends (Quakers), the Church of Jesus Christ of Latter Day Saints (Mormons), Christian Scientists, Seventh Day Adventists, Unitarian Fellowship, Baha'i World Faith, Church of God, Church of God in Christ, House of God, Church of Christ, Christian Church, Assembly of God, Disciples of Christ, Church of the Nazarene, Church of the Open Door, Church of Jesus, Christian Reformed Church, Reorganized Church of Jesus Christ, Pentecostal Holiness, United Pentecost, African Methodist Episcopal and Jehovah's Witnesses. About the only large Protestant denominations that are unrepresented are the Congregationalists and the Universalists.

The rise of the "home" in the traditional American sense is perhaps the most striking Alaskan development of the last decade and evidence of a new permanence replacing the transiency of earlier years. Although some impressive apartment buildings—Alaska's first skyscrapers—began altering the cityscapes of Anchorage, Fairbanks, Juneau and Ketchikan at mid-century, houses as residences are relatively more numerous than apartment dwellings, and the ratio is higher than in corresponding stateside towns. Some of the newer Alaskan homes compare favourably in architecture, equipment and furnishings with any elsewhere.

Social gathering places in the larger and medium-sized communities are the Elks' lodges, some of which are elaborate, and centres of club life for men and women. The Moose come next in membership; and there are lodges of Eagles, Odd Fellows, and Sons of Norway. The Masonic order is widely represented. A uniquely Alaskan organization is the Pioneers of Alaska. As the name implies this organization was formed in the earlier days and its locals are called "igloos." While the founders have almost all faded away, 30 years' residence in Alaska establishes eligibility and the membership is thereby continually replenished. The service clubs, such as Rotary, Kiwanis and Lions, hold their luncheons on different weekdays, a fourth being given up to the chambers of commerce or Jaycees. The American Legion and Veterans of Foreign Wars have their "dug-outs." The women's auxiliaries of these predominantly male organizations and orders, such as the Eastern Star, Rebekahs, Rotary Anns, Jayceettes, etc., function as they do in the other states. Toastmasters' and toastmistresses' clubs hold their monthly dinner meetings. Sixteen women's clubs affiliated with the General Federation of Women's clubs exist in as many communities. Business and professional women's clubs, such as the Soroptimists, meet regularly; the American Association of University Women and the League of Women Voters meet occasionally.

Social and cultural activity differs, of course, in degree and variety with the size of the community. In addition to its music, Anchorage leads in art exhibits where painters who find a deep appeal in portraying the Alaska scene display their canvases. Alaska's favourite painter, Sydney Laurence, may be said to have been the first to make Alaskans art conscious. Prolific, a master of light and colour, his paintings adorn both the Louvre in Paris and the National museum in Washington, D.C. Equally adept at landscapes and marines, he painted Mt. McKinley a hundred times, the trapper's log cabin and cache, northern lights, the cliffs, fiords and bays of Alaska's variegated shore and, perhaps best known of all, his "off to the potlatch" depictions of Indians in their canoes heading for a tribal feast. A Sydney Laurence is the prized possession of many an Alaskan home.

In the smaller, more remote communities social life is apt to centre in church and schoolhouse as well as in the home. In the purely "native" villages some of their older customs persist. The Alaska Native Brotherhood hall is the meeting place in the Indian village; the *kashim* in the Eskimo. The favourite form of entertainment there is dancing, performed individually to the rhythmic beating of drums, a dramatic and muscular interpretation of daily adventures. Participation is by any of those present, young and old, of either sex, as in Quaker meetings when the "spirit moves." *Nalukatok* (blanket tossing) is an important form of outdoor Eskimo recreation, exercise and self-expression. For this, the originally used walrus hide is now replaced by a blanket. The participant is tossed and leaps as high as 20 feet, strives to land on his feet and to continue bouncing until balance is lost, when another jumper moves in. The winner is the one who can keep his footing the most times. This sport has a practical origin and application. Few Eskimos swim (arctic waters being too cold) and maintaining equilibrium, as when the hunter of seal, walrus or polar bear leaps from precarious footholds on one bobbing ice cake to another, may involve survival. *Nalukatok* provides the training in equilibration. Eskimo dancing, blanket tossing and dog team racing have been adopted as parts of the Fur Rendezvous held annually in February in Anchorage and the Mid-Winter carnival in Fairbanks in March; both affairs are designed as diversions of fun and sport toward the end of a long winter. Kotzebue, the "Eskimo capital," likewise stages these events for the benefit of tourists, as well as ocean rides in an *oomiak* or *kayak*.

What primarily distinguishes life in Alaska from that in the

other states? It is the pervading nearness of the wilderness with its bountiful renewal for body and spirit. Nearly all Alaskans hunt and fish and these activities are part of their lives as of no other Americans. They hunt and fish for sport and for food. Moose meat, caribou and deer venison, the cuts of mountain sheep and goat, goose and duck, salmon, halibut, trout and grayling are items in the Alaskan family larder. Everywhere the great outdoors is at the Alaskan's door.

In Anchorage, from which the wilderness has receded somewhat before urbanization, we find a uniquely Alaskan bridging of the gap. In the city's outskirts are two small lakes, Hood and Spenard. A canal dug to connect them provides a runway for float planes. Lake Hood has become their parking lot, Lake Spenard being reserved for bathing. Afternoons in spring, summer and early fall, Anchorage folk drive to Lake Hood, take off in their planes to cabins on the numerous lakes dotting the Susitna plain which stretches 100 miles north to the Alaska range. The individual's float plane, piloted by him, is here the Alaska equivalent of the commuter's automobile in the states. Reportedly 10% of the world's privately owned seaplanes are at Anchorage. Apart from this local use, the importance of the airplane in the resurgence of Alaska and in the lives of Alaskans can scarcely be overemphasized. To no other people in the world does it contribute so essentially as to Alaskans.

Alaskans fondly call Alaska the "last frontier." And so it is—the last under the American flag. The effects of Alaska's frontierism are worthy of an extended study. From it some light could be shed on the character of Alaskans, past, present and prospective, and indeed on the evaluation of Alaska as a political, economic and social entity. There is space here but for a limited reconnaissance of this intriguing subject.

The "frontier hypothesis" of its author, historian Frederick Jackson Turner, was that the advancing frontier, the succession of frontiers, developed unique traits in the American character and had a corresponding effect on American history. To apply his assumptions to Alaska one needs to note the differences, as well as the similarities, between Alaska as a frontier and the various previous frontiers in the westward march of Americans.

Alaska suffered governmental restrictions which by and large the West, moving stage of earlier American frontiers, escaped. "The most significant thing about the American frontier," wrote Turner, "is that it lies at the hither edge of free land." That was not true of the Alaskan frontier where the federal government held the land. It may become true under statehood.

The Alaskan pioneer was not originally a prospective settler. He was a fur hunter, a trader and a gold prospector. These are not the types predisposed to settlement. Yet both the fur trade, during the early stages of America's westering, and the search for minerals, starting with gold in California and then for gold, silver and copper throughout the mountain areas, were the precursors of settlement. When their initial lure had played out, the pioneers of the West found other attractions to induce them to stay on. Such other attractions, which also existed in Alaska, were largely nullified there by federal obstruction.

Nor did the "Indian frontier as a consolidating agent" exist in Alaska. After the initial troubles in the 1870s in southeastern Alaska, for which historian Hubert Howe Bancroft blames chiefly the U.S. military, the relations of white and Indian were friendly and peaceable. Alaska Indians were not driven off their ancestral habitats nor did they massacre the whites. There were enough physical hardships in Alaska to develop the "stalwart and rugged qualities of the frontiersman" without the alerting and energizing effects of border warfare. Likewise, with but one exception (the "Soapy" Smith affair in Skagway) Alaska's early history was free from the crime, violence and vigilantism of the West.

In sum, Alaskan pioneers' struggles were with nature and the

elements rather than with their fellow men on the scene. They were able to win the battles with nature; their conflicts with distant and unseen persons are still to be won. Statehood will provide the tools for victory.

"It is curious how state lines mark differences in Americans," wrote William Allen White. Are Alaskans already, or are they likely to be, distinctive from their fellow Americans? It may be too early to note the emergence of a "typical" Alaskan. Every variant of personality will of course be found among Alaskans. Recent arrivals retain the accents of their native states, and no doubt other attributes as well. Yet certain qualities may be deemed characteristic of Alaskans once they have become such.

The Alaskan is an individualist. He is a hard worker and an independent thinker. Frontier necessities have made him versatile. He can "do" almost everything and he does. Alaska is the most "do-it-yourself" part of America. The Alaskan has a sense of humour. He does not take himself too seriously. Yet he has a keen appreciation for what he considers true worth in others. In Alaska a man or a woman is judged not by family, means or previous stateside condition, but by what he is and can do in Alaska.

If America's aim was that of a classless society, from which it may be departing in the older parts of the nation, that aim has been adhered to in Alaska. Everyone feels equal to everyone else there. The girl who waits on you behind the counter may continue conversation by joining you for a snack on the stool next to yours. Domestic service has through force of circumstances greatly diminished in the states; it never existed in

A BLANKET TOSSING at Nome



Alaska. All Alaskan women have always done their housework and many, unless preoccupied by multiple maternal cares, hold jobs besides.

Alaskans are informal. First names, from the first meeting, are the rule. Alaskans are generous. The hat, readily passed for anyone in distress, is always amply filled and for distant causes as well. Alaskans are neighbourly; mutual helpfulness is automatic. Alaskans are hospitable. So likewise were the aboriginal inhabitants, a characteristic undiminished among their descendants.

All these are deemed traditionally frontier traits. But the Alaskan differs in one important respect from his western prototype if one accepts Turner's view that the western frontiersman was averse to book learning and intellectualism. Alaskans are among the best-read Americans. Anchorage, Fairbanks and Juneau each support a good bookstore, as does Spenard, a suburb of Anchorage; cities many times larger in the states have none, and in some cities of 250,000 people books are a mere department store adjunct. Alaskans subscribe to many magazines.

Alaska is still a frontier. Turner's classic begins with a quotation from a bulletin from the superintendent of the census for 1890: "Up to and including 1880 the country had a frontier of settlement, but at present the unsettled area has been so broken into by isolated bodies of settlement that there can hardly be said to be a frontier line."

This significant, brief official statement—it is Turner's thesis—"marks the closing of a great historic movement." Up to that time, he contends, American history had been "in a large degree the history of the Colonization of the Great West."

With the advent of statehood 99% of Alaska was still public

domain, although a substantial part thereof, including some of the best land, was withdrawn into superimposed federal reservations of one kind or another. But under statehood 103,350,000 acres, an area the size of Montana, goes to the new state and becomes potentially "free land." This land is not now appreciably "broken into by isolated bodies of settlement."

In immediate prospect therefore, the "frontier" in Alaska will come into being. In actuality pioneering goes on today in Alaska. The homesteaders on the Kenai peninsula and elsewhere are engaged in it, clearing the forest, hewing their log cabins from it, living off the natural resources of land, lake, river and sea and preparing patches of cleared ground for crops. In the remoter areas the hardships of earlier days persist. In others, more accessible, modern inventions—electrification with all its conveniences, the contacts of radio, television and air transportation—have softened erstwhile rigours.

Indeed the duality of both a modern and a frontier society exists in Alaska today, the larger cities counterparts of urban life in the states, the smaller outlying settlements only a little changed from the life of half a century ago. But the frontier spirit exists in both.

The 14-year drive for statehood—since 1945—now successful, has done much to rekindle that spirit, to offset with buoyant hope the depressing, and for a time atrophying, effects of over 90 years of absentee rule, neglect and discrimination. Increasingly Alaskans have become conscious of their great destiny—to establish in those far northern latitudes, long ignored by Americans, not merely a bulwark of defense for the continent, but a society exemplifying all that is best in the American way of life.



U. S. Army Photographs

- Nome's freight is still lightered from steamers anchored two miles offshore—the sea is so shallow they dare not come closer—but no longer must crews wrestle it onto the dangerously exposed beach.

Nome Harbor

KEEPING the harbor at Nome open for shipping during the ice-free months is the job of the United States Army Engineers, and boss man for the engineers is a tall, gaunt Scotchman, William "Bill" Brown, who last winter drew a citation for twenty-five years of outstanding service.

It was in 1933 that Brown first came to Nome. He had previously been Port Engineer at Ketchikan for the New England Fish Company, but the great depression had left him out of work along with many others.

Nome, in 1933, had no depression, however. The price of gold had been raised to thirty-five dollars an ounce and the old gold camp had sprung to

new life. New and old mines were going into production and a veritable fleet of ships began to bring in supplies.

Steamers lightered their freight ashore from two miles out and work gangs wrestled cargo onto the beach under dangerously exposed conditions.

To remedy this latter situation, the Army Engineers shipped north a tug, a dredge and two scows. "Bill" Brown and his crew fell to work dredging a small boat basin in the estuary of the Snake River, where lightering crews can get protection behind the jetties from the lashing seas of the Bering.

Since that time, Brown and his crew of six local men, most of them Eskimos, have kept the harbor clear and main-

tained the jetties and abutments which protect the town from the often violent Bering Sea surf.

It's a night and day job for Harbor Master Brown, from June until October. Every season he and his men dredge out an average of seventeen thousand cubic yards of silt and tow it to sea.

Nome hasn't had a new gold rush since the 1933 era, but in Uncle Sam's expanding defense plans, the far North harbor has played an important part. Many military cargoes have come ashore along with civilian goods and Harbor Master "Bill" Brown has been doing his Army share in "keeping 'em rolling." ▲



Photos by Charles J. Ott.

National Park Service

The silt-laden Toklat River, left above, meanders down a valley of glacial till. A coyote, above, silently hunts small creatures.



Magnificent McKinley

Nature built the wonders in McKinley. Shown below is Pyramid Mountain as seen from Denali Lake. A moose, left, is in danger from predators only when deep snow hampers his movements.

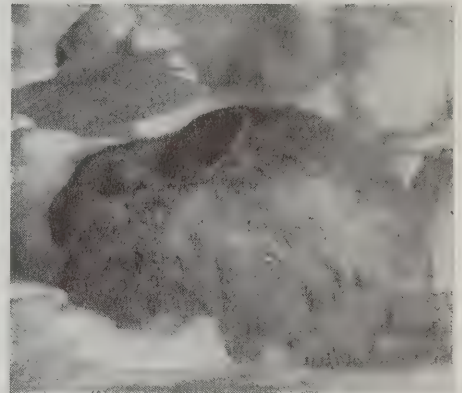




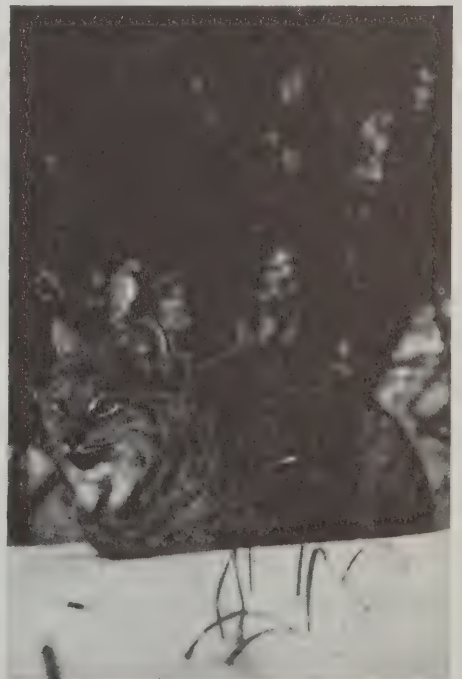
Ewes and lambs of McKinley's Dall sheep herds spend the summer feeding in mountain meadows, as shown above, while the stately rams remain aloof. Toklat Grizzlies in McKinley put telephone poles to uses for which they were never intended, as at right.



It has often been said that one trip to Alaska calls for another, as a land so vast and varied cannot be more than sampled in the ordinary vacation period. With the opening of the Denali Highway to Mount McKinley National Park, thousands who have visited Alaska by automobile will wish to return and explore the second-largest of the nation's parks, where the highest mountain on the continent is but one of the superlative attractions. The hundred-and-seventy-mile Denali Highway, leaving the Richardson at Paxson's, crosses an excellent hunting and fishing area previously accessible only by plane, and connects with ninety-four miles of park roads. Camp sites are frequent. Hunting of course is not permitted in the park, but fishing is, and all game animals to be seen and photographed inside the park are also to be found outside its boundaries. Besides its snow-capped mountains, glaciers, rushing rivers, Alpine flora and varied wildlife, McKinley has an advantage for summer sight-seers that no other park can claim: on this spectacular wilderness drama, nature draws the curtains only briefly. In McKinley's northern latitude, one can see for more hours of the twenty-four than he will stay awake.



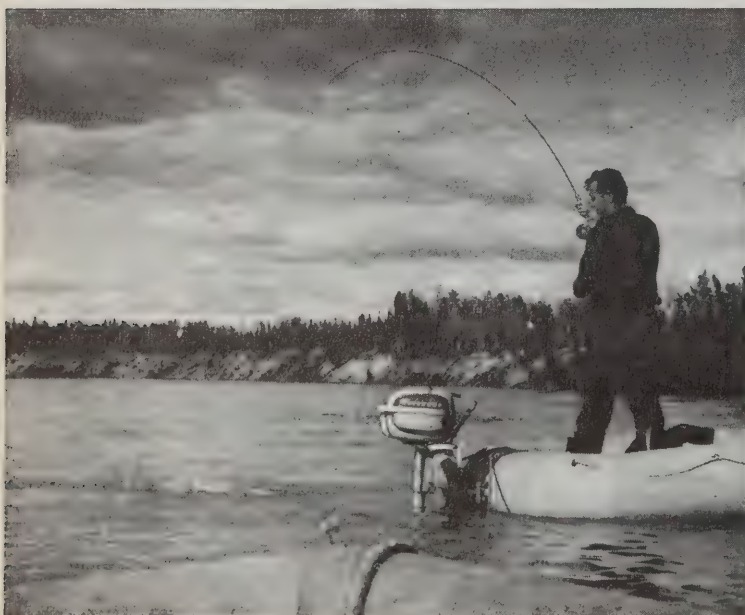
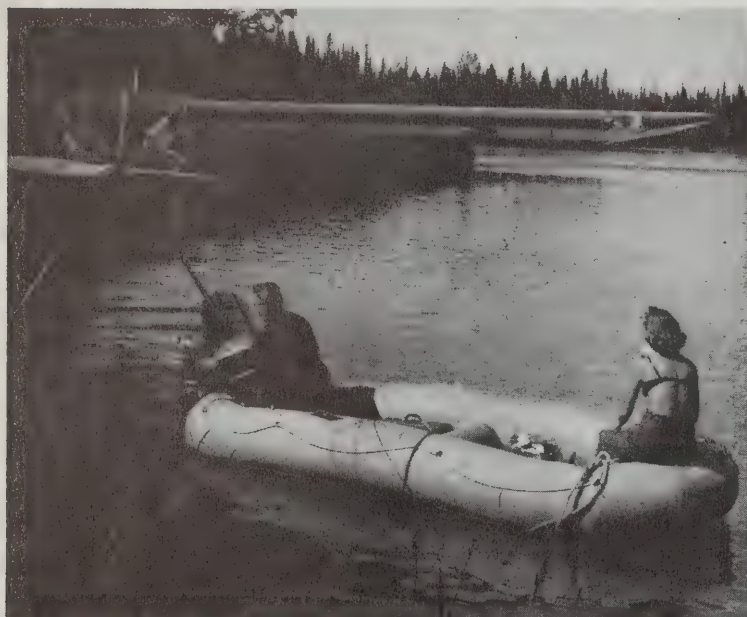
In McKinley's three thousand and thirty square miles, caribou roam safe from rifles. Only in pictures would a snowshoe rabbit, at right, be safe so close to a Canada lynx, lower right. Nature's law, survival of the fittest, prevails in this wildlife community.





Photos by Bob Thompson

Rainbow trout take top spot with the world-wide fraternity of fresh-water anglers, and Alaska has rainbows to fulfill one's fondest dreams. The photos on this page tell a fish story that happens again and again each summer in Alaska, with minor variations. On the Kenai Peninsula south of Anchorage, Skilak Lake lies in the course of the Kenai River. Pilot-Guide Bob Thompson lands his Aeronca sedan on Skilak's shore, and out steps Pilot Howard Pierce, grinning with eager anticipation. A few minutes later, his tackle strung up, he and Mrs. Pierce shove off in a rubber boat with outboard motor, to find where the big ones lie. A couple of casts and Pierce is hooked into a fighting rainbow. The Kenai River is best fished by moving from hole to hole, so Mr. and Mrs. Pierce and another member of the party take off in a plywood skiff which pushes upstream better in the swift current. Two exciting hours produce an even dozen beautiful rainbows, the largest twenty-six inches long—a typical catch.





William Wakefield

Commercial fishing is the direct or indirect livelihood of most of Alaska's coastal population, and salmon are the basis of its principal industry. Shown above is a gill-netter's boat in Seldovia Bay, beached at low tide to examine the hull before the season starts. Below are sockeyes, or red salmon, most valuable of Alaska's five salmon species.

J. Malcolm Greany





Boats are more essential than automobiles in Southeastern Alaska, where the few roads are local and the necessities of life come by air or water. Steamers are the vital link to the Outside, and smaller craft are necessary for work and pleasure. Many persons live where they must travel by boat to the store, the post office or the neighbors.





Dennis N. Jones

During the salmon seining season the scene above is duplicated in Southeastern ports very early every Monday morning. Seining is closed from six p. m. Saturday to six a. m. Monday to insure escapement, and in the interim fishermen bring their fish to town, get fuel and supplies, visit their families, perhaps rest a little. They leave port in time to be on their favorite grounds ready to work the instant it is legal. Seiners are pursing their net in the photo below.

U. S. Forest Service, by Linn Forest





**IGLOO MOUNTAIN
MCKINLEY PARK**

Photo by
Charles J. Ott

Winter comes early in McKinley Park, where the snow begins in September to creep down from the perpetual blanket at higher altitudes and soon transforms the land to a pristine white. June through August are the months of vivid color and summer activity in the park. Then comes the long winter season of skiing, skating and such sports, curtailed only by the shortness of the winter daylight in that latitude.





ASTROLABE BAY

Photograph by
W. H. Graves



gold fever

You say you saw them nuggets?
They was rough, not glacier-ground?
And the owner was almighty vague
About the place that they was found?

He bought four dogs, some side packs
And a case of dynamite?
And faded out toward the Brooks range
Just sometime late last night?

By God! I'll bet he struck it—
Drilled into the Mother Lode;
I want that claim right below his—
Get your pack! We're on the road!

J. C. F.



GOLD FEVER



K. D. Cobban

In 1846 William H. Seward predicted that the United States would extend its civilization to the far north, and in 1867, he was instrumental in the purchase of Alaska. Named after this man is Seward, Alaska, shown above, metropolis of the Kenai Peninsula.

The Genius of Seward

by J. J. Stauter

CAN a man's stature grow after death? A group of people in the Anchorage area think so—and with good reason. This was one of several surprises they found when they began to explore the idea of a monument or other memorial to William H. Seward, the man responsible above all others for the fact that the United States flag, rather than the Russian or British, flies over the Territory of Alaska.

Surprise number two came when members of this group began asking their friends for opinions on the project. "Seward? Who's he?" was a typical response. The committee found that about one out of every three present-day Alaskans never even heard of William H. Seward!

That seemed to call for a little public information on the subject, and the members set out to gather a few of the simplest facts about Seward and his famous bargain. Then came surprise number three. The group learned that the ordinary history books, and even the most trusted sources of information on Alaska itself not only disagreed with each other, but were full of some pretty obvious mis-statements.

True enough, they credited Seward

with the idea of buying Alaska. Then they quote at length from Senator Charles Sumner's well-known speech, in such a way that an average person would conclude that Sumner was speaking Mr. Seward's thoughts, that Seward has somehow put the words in Sumner's mouth.

Yet it was common knowledge in 1867 that the two men were bitter personal enemies. Sumner, in particular, hated Seward—and about the only thing they *did* agree on, was the purchase of the land then known as Russian America. It was Sumner, not Seward, as this committee learned, who so eloquently answered the ridicule about "Walrus-sia, Icebergia, Seward's Icebox, and Seward's Folly." It was Sumner, not Seward, who had gathered the imposing array of facts about Alaska's climate, resources and suitability for settlement. Sumner even named it Alaska.

What, then, was Seward's part in the transaction? When this Anchorage committee began to inquire a little further into the facts, it soon found evidence that Seward was not at all interested in the furs, gold and fish, either at that time, or in the future. There was nothing to indicate that Seward ever cared

if wheat would grow, or whether the winter in Sitka was warmer than the winter in Washington, D. C.

That led to surprise number four. After many weeks of searching through books on Alaska and on American history, these Anchorage men and women finally came to the conclusion that Seward's own point of view on Alaska was neither known, nor would it have been understood if it had been known to the general public.

They learned that about twenty years after Seward's death and burial, a few obscure scholars here and there began to take a second or even a third look at Mr. Seward's ideas. Thanks to these few scholars, a new angle on the purchase of Alaska began to take shape. Slowly, hesitantly, almost apologetically, men began saying and writing things that indicated Mr. Seward was a far wiser man than anyone gave him credit for at the time. Thus, long after his death, Seward began to grow.

As nearly as the committee can learn up to the present time, the story goes like this: at the time of Seward's death in 1871, he was regarded as a failure in many respects. What was worse, he was looked upon as a man who deserved to

be a failure. Of course he was regarded as a bright, even a brilliant man. Of course he had devoted a lifetime to public service, as Governor of New York state, as U.S. Senator, and as Secretary of State. Of course, he was an energetic, loyal, and devoted public man. Not even his worst enemies could ever produce a shred of scandal, nor so much as a hint of dishonesty. Of course he had hosts of friends; friends of every race and creed and political belief.

But on the other hand, Mr. Seward had meddled into too many things. He had talked too much. He had said wild things in his speeches, which had better be forgotten, out of respect to his memory. He had sometimes disagreed with President Lincoln. After Lincoln's assassination (Seward, too, had suffered almost mortal wounds from the same group of thugs, and that should be remembered), Seward stood by President Johnson during the impeachment trial, thereby losing the respect of the leaders of his own party.

But the most serious charge against him was this: at a time when the United States had land to burn, but was mighty short of ready cash money, Seward had proposed, by purchase where necessary, the saddling of the United States with the burden of no less than eight pieces of overseas territory—non-contiguous territory, they called it. Fortunately, Congress had stopped the man in this insane scheme, although the appropriation for Alaska was allowed to stand.

His Genius Overlooked

Congress stopped him by refusing to ratify the treaties he had negotiated for the purchase of the Virgin Islands, the Isthmus Canal Zone, Iceland, and Greenland. Congress had stopped him from acquiring Hawaii, which could have been had for free. All that remained of Mr. Seward's scheme was Alaska, which barely skinned through some very potent political opposition; and that little, uninhabited, unknown Midway island, which Seward had the navy take without saying anything to anybody.

There was so much feeling against Seward's schemes that the matter was allowed to die long before Seward himself was laid to rest. The final years of the ex-Secretary of State were spent in peaceful world travel, including a visit to Sitka, Alaska. He died on October 10, 1871, and received decent honors due a noted statesman and former Secretary of State—no less, but no more.

Physically, Seward was five feet four inches in height—historically his stature was less than that. With the one possible exception of the purchase of Alaska, there was hardly a fragment of his long public career upon which to build anything resembling permanent fame. A couple of biographies were written, but they contained nothing of general public interest, and soon were dropped from print after a disappointing circulation.

This, the members of the committee agree, is a fair statement of Seward's

status at the time of his death. If there were more favorable opinions of the man current at the time, a record of them has not been located by this group.

The first sign of a serious re-examination of Seward's work came in May, 1897, when a Captain of the U.S. Navy wrote an article for Harper's New Monthly Magazine, which was published in September of that year. Captain A. T. Mahan called his article "A Twentieth Century View," and mentioned briefly the possible long-range military significance of some of Seward's "non-contiguous territories."

Although he did not agree with the former Secretary in detail, Mahan expressed an appreciation of what he called "the spirit that suggested" these plans. Not much attention was paid to the article, however, because most Americans did not realize that the author, Alfred Thayer Mahan, was the greatest authority on sea power and naval strategy of all time. Nevertheless, it was enough to indicate that Seward was not quite the fool that some had thought; and the man who had seemed so small a quarter of a century ago now began to grow a little in the estimation of a few educated Americans.

The next year, 1898, the memory of William H. Seward suffered a sudden flare of fame. Yes, suffered is the correct word here, since Seward was somehow given credit for guessing that there was gold in Alaska. Then, and for the next few years, newspaper headlines all over the world carried stories of the gold rush to the Klondike, the Tanana, and to Nome.

People began saying that Alaska was worth something after all, and that Mr.



Wide World Photo

William H. Seward, above, was responsible above all others for bringing Alaska into possession of the United States.

Seward must have been a smart man at that. Nobody checked on the facts: that it was again Senator Sumner, not Mr. Seward, who had dangled the idea of gold in Alaska before the reluctant Senators back in 1867. Seward had made no such prediction, and it did not honor his memory to say so.

Nevertheless, every man or woman

Only Seward believed in the "great-circle" route over Alaska, being discussed below by Mrs. Vivian Kurtz, Bill Halligan, Morry Carmody, George Gustafson, and J. J. Stauter.

Ward W. Wells





Cattle flourish beneath the glaciers of Kachemak Bay, Alaska. At the time of Alaska's purchase, 1867, Alaska was referred to as "Icebergia" and "Seward's Folly."

William Wakeland

who has written a book about Alaska since that time (and there were hundreds) has gone through the standard ritual of adding up the value of the gold, fur, and fish taken from the territory, then subtracting the purchase price, and offering the remaining sum as proof of Mr. Seward's superior wisdom.

Many years later, in 1922, a noted professor, Dr. Tyler Dennett, dropped the first hint that this was hardly a fair statement of Seward's intent. In an obscure scholarly journal, this American historian noted the close parallel between the negotiations with Russia for the purchase of Alaska, and demands upon Korea arising out of the burning of an American steamer and the massacre of her crew. Dr. Dennett wrote this: "The conjunction of the two

negotiations at least makes reasonable the conjecture that the purchase of Alaska was a piece of *Far Eastern policy*, the full significance of which is not yet realized."

So, here was a recognized authority on American diplomatic history, saying first, that the buying of Alaska had something to do with the Orient, and second, that its full significance was not yet understood!

Quite independently, but at about the same time, the man who did more than any other to tell the truth about Alaska, the great geologist Alfred A. Brooks, also arrived at a conclusion that was definitely off the well-beaten path of the writers who had been copying from each other. Although one might normally expect a great geologist and geographer to emphasize Alaska re-

sources in general and gold in particular, Dr. Brooks wrote this: "Our own acceptance of the Territory is due chiefly to the broad view of William H. Seward. He recognized that the United States was destined to become a Pacific as well as an Atlantic power and that the acquisition of this northern territory would strengthen the nation in the western sea. It was a part of a broad plan, which included obtaining foothold at Samoa, at Panama, and in the West Indies, though Russian America (i.e., Alaska) alone was to be acquired during Seward's lifetime. Subsequent events have justified Seward's outlook, though over half a century elapsed before the entire plan was put into execution."

Unfortunately, this remarkable statement of Dr. A. H. Brooks was not made public until 1953, when a group of his manuscripts were gathered into a book entitled "Blazing Alaska's Trails," and printed under the joint sponsorship of the University of Alaska and the Arctic Institute of North America. We do not even know the date it was written, except that it was sometime between 1914 and 1922, the year of Dr. Brooks' death.

Meantime, during stresses and strains in the international affairs of the Pacific, and during World War I, events themselves might have suggested further new insight into Mr. Seward's real views, but there is nothing on the record to indicate that anyone took note. But after December 7, 1941, some very sudden and forceful realizations of Seward's powers of foresight and prophecy found their way into print.

Alaska Purchased at Night

Edwin A. Falk, the naval writer, published a book called "From Perry to Pearl Harbor" in 1943, in which he said this of Seward and the purchase of Alaska: "Seward's son, who was Assistant Secretary of State, is authority for the statement that the Secretary, who almost singly engineered the transaction, was prompted to press the project by the need for a naval base in the North Pacific that was felt during the Civil War just ended. After Lee's surrender, the Confederate raider Shenandoah had destroyed a large whaling fleet in the Bering sea."

It also seems clear that Seward knew the great-circle route from our northwest to Japan. In 1864, he had advocated a subsidy for a cable-line to Siberia by way of British Columbia, the Russian-American mainland, and the Aleutians. (Here it is necessary to correct Mr. Falk: It was by way of Bering strait, not the Aleutians, that the cable was planned, so the Committee learned.)

Continuing Mr. Falk's interesting comments: "It was upon a globe, and not a flat projection (i.e., not an ordinary Mercator wall-map) that the ceded territory was examined in the pre-dawn hours of that Saturday morning after Seward, casually informed the previous evening during a quiet whist game that Saint Petersburg had cabled acceptance, had hurried the Russian minister to the State Department,

Long before there was a railway, or even thought of one, William Seward predicted that the Pacific would become the chief theater of events in the generations to come.



lit the lights, assembled the clerks, and drafted the treaty which the astonished emissary of the Czar was prevailed upon to execute before any countermanding instructions might come from his government."

With the statements of Mahan, Dennett, Brooks, and Falk, it was evident that some progress was being made toward a new understanding of Seward's motives. Seward's stature was growing rapidly almost seventy years after his death!

During World War II, a very interesting book was published under the joint editorship of geographer Dr. Hans Weigert and the great authority on the Arctic, Vilhjalmur Stefansson. The purpose of this work, curiously titled "The Compass of the World" was to blast German Geopolitics off the globe, and attempt to establish the truth about the world situation which would be faced with the coming of peace.

It consisted of twenty-eight separate articles, each by a leading authority in his own field. Seward's stature jumped twice in the eyes of the readers of this work. First, there was the interesting comment of Father Edmund A. Walsh, Regent of the School of Foreign Service and Vice-President of Georgetown University. Father Walsh wrote: "Seward's purchase of Alaska in 1867 gave far more evidence of politico-geographic acumen than is commonly attributed to that tempestuous member of Lincoln's cabinet."

In the same book, "Compass of the World," Stefansson himself had this to say: "That Iceland dominates the North Atlantic was recognized by William Henry Seward, secretary of State in Lincoln's and Johnson's cabinet. He considered that we needed both Iceland and Greenland for dominion over the North Atlantic and should buy them



Photo by Ott

Seward Highway, showing Johnson Pass, near Portage, is named for William H. Seward. Although he is responsible for the purchase of Alaska, his life story is little known today.

from Denmark; and that we needed Alaska for dominion over the North Pacific and should buy it from Russia. He made good on Alaska in 1867. Thereafter the military atmosphere faded from Washington, and we soon forgot about Greenland and Iceland and the military reasons that had prompted the Alaska purchase. But around 1939 we once again began to see clearly the importance of dominating both the North Atlantic and the North Pacific."

The book containing this statement was published in 1945, while World War II was still going on, so naturally it emphasizes the critical situation that

the United States had faced along both great-circle routes. But it said nothing about the other things Seward had wanted to accomplish, mentioned by Admiral Mahan and by Dr. Brooks.

This set the committee to wondering about something. Here were various noted authorities, all commenting on Seward's ideas and Seward's plans in a most favorable manner, yet it seemed that not one of them had mentioned the plan in full. Could it be possible that they did not know, or merely that each one had picked out some part of Seward's scheme which he thought im-

When Fairweather Mountain is visible, it means fair weather for ships passing it along the Gulf of Alaska from Seattle to Seward.

Wide World Photo



portant, and failed to comment on the whole plan because it was beyond his immediate subject?

With the exception of Mr. Falk, who not only knew but quoted Professor Dennett's remark, each of these men had written without any knowledge of the other. A Captain who later became an Admiral, a professor of history and international affairs, a naval writer, a geologist and authority on Alaska, a great Catholic thinker and educator, and an Arctic explorer and writer had each contributed something toward an understanding of Mr. Seward. But no one yet had put these comments together. No one had yet told the whole story!

The committee sought additional information from Mr. Seward himself. This was difficult, because they were unable to locate a set of Seward's speeches which had been printed many years ago and which were now very rare. It was difficult for another reason—most history books and reference works had apparently believed Seward's words were too wild to put on the permanent record. It was only in some rare, forgotten volumes that quotations were located here and there.

Alaska's Future Predicted

Such a book was H. H. Bancroft's "The New Pacific," published in 1900, probably forgotten soon after that. This strange echo of an age of saber-rattling American Imperialism had used several quotations from Mr. Seward, although Seward himself was a man who preferred the paths of peace, international law and international morality, and was not by any means to be classified with the men who advocated American wars of conquest. Yet the quotations used in Bancroft's book opened up a new line of inquiry for the committee.

This one, for example: "Our population is destined to roll its resistless waves to the icy barriers of the north, and to encounter Oriental civilization on the shores of the Pacific."

That is a quotation from one of Mr. Seward's early speeches. Seward said that in 1846. Yes, the year is correct, 1846—before the California gold rush, before the covered wagons began to roll over the mountain passes, even before Commodore Perry's famous call upon Japan. Yet here was Mr. Seward, predicting that the United States would spread its population to the Arctic, and meet the civilization of the Far East on the Pacific shores.

That brief sentence might or might not mean anything much. But here is another, taken from that same source: "Henceforth European commerce, European thought, European activities and European politics, although actually gaining force; and European connections, although actually becoming more intimate, will nevertheless relatively sink in importance; while the Pacific Ocean, its shores, its islands, and the

vast region beyond, will become the chief theater of events in the world's great hereafter."

This is a quotation from a speech by Senator Seward in 1852, before there was a railway or a telegraph to the Pacific seaboard, or even any regular commerce with the Orient. The European powers were building their great empires, and Rome, Vienna, Paris and London were at the center of the world. Yet here was Seward, predicting that the Pacific would be the place where important things were to be decided in the future. It was also clear to the committee, from the previous quotation, that Mr. Seward hoped that the United States would occupy a very special role in the Pacific of the future.

But Seward did a great deal more than hope. He began to look ahead, to plan, to take action upon this great idea. He led the fight for a railroad to the Pacific. He led the fight for the admission of California as a state. As Senator, as a great debater and speech-maker who had come forward in the public eye to fill in some measure the vacancies left by his distinguished predecessors, Webster, Clay, and Calhoun, Seward used the full power of his popularity and political sagacity to advance the progress of the United States toward the west, and project its influence into the Pacific arena.

There is the matter of the Siberian telegraph, for example. This project has already been mentioned in an extract from Mr. Falk's book on Pacific naval history. But what Mr. Falk did not know, what the authorities in general did not know, was that Seward not only "advocated a subsidy" for this enterprise—he was part and parcel of the plan from its very inception.

This was not clear until the past five years, when the publication of the diaries of George Templeton Strong told how Mr. Samuel Ruggles, Strong's father-in-law, acted as Seward's confidential agent and representative in the plan. Another recent book, published within the past five years, revealed that Perry MacDonough Collins, the instigator of the telegraph, was originally an agent selected by Secretary Seward to see what the Russians were up to in the Amur River region, on the borderline between Manchuria and Siberia.

Russia Plans Empire

What Mr. Collins reported, undoubtedly to Mr. Seward personally, has not been printed directly, but it can be fairly reliably reconstructed from another recent publication. This one is especially interesting because it is a Soviet history of Russian expansion in Alaska, the Orient, and the Pacific region generally. It has the title: "The Russian American Company," by S. B. Okun, and it was regarded as important enough to be translated and published in America by our own State Department in cooperation with the American Council of Learned Societies. It tells some amazing things about Russian plans to create a vast Pacific empire.

It shows, for one thing, that the furs the Russians took from Alaska were used to obtain a back-door entry into Manchuria and North China. Once her foot was in China's back door, Russia rapidly extended her commercial and political influence down the Amur river, where Vladivostok was later built at the mouth of this strategic Russian waterway.

No American at that time realized that the Russians were using Alaska as a stepping-stone into China—no one, that is, except Mr. Seward and his shrewd agents.

Mr. Collins proposed the telegraph across the Bering strait for the apparent purpose of getting the United States into the act quickly, to offset this growing Russian domination of North China. Strangely enough, the Russians seemed to be quite willing at the time to have the United States share this sphere of influence.

Thus it was planned that American capital should build, and own, the cable from California through British Columbia and what is now Alaska, across the straits and down to the mouth of the Amur. That was in 1864—and it was certainly no fault of Collins or Mr. Seward that the project had to be abandoned because the Atlantic cable had quite unexpectedly made a successful connection. Would it be of any advantage to the United States today to have a center of American influence in Vladivostok?

Seward's Genius Thwarted

On the other hand, the Atlantic cable, although American capital had participated, belonged to the British. Only Seward foresaw that this was not a desirable situation for the United States. Britain, although a friendly power, was not above intercepting and decoding our secret diplomatic dispatches from Berlin and other European capitals. We did not know this until after World War I, and it was not made public generally until the memoirs of Ambassador Joseph C. Grew were published quite recently.

Thus, in retrospect and almost a century later, we begin to see something of the genius of William H. Seward. If the cable to Europe had succeeded by way of the Bering strait and Siberia, America would have advanced at least a half-century in the Pacific, and would have been relieved, at the same time, of dependence upon the British for communication with Europe.

Who was crazy?

Another thing the committee found in one of Mr. Seward's speeches was this, which proved that Seward's interest in Alaska and his intention to secure it for the United States went back at least seven years before the purchase was concluded. In a speech at Saint Paul in 1860, he had said this: "Standing here and looking far off into the northwest, I can see the Russian as he busies himself establishing sea-ports and fortifications and towns on the verge of this continent; and I can

say: go on and build up your outposts, even up to the Arctic ocean; they will yet become the outposts of my own country, monuments of the civilization of the United States in the northwest."

The committee thinks it rather odd that of all the two thousand known books on Alaska, not one of them checked so far has printed this quotation, nor indeed, any of the others that tend to show the breadth and depth and permanence of Seward's remarkable concept.

Now the time had come to begin adding this information up, so as to gain some idea of this remarkable plan of Seward's. Seward believed:

1. That Europe would decline just as the Mediterranean had declined centuries before.

2. That the Pacific was the new theater of great world events.
3. That the United States would spread its population northward and westward so as to obtain a naturally commanding position in this new Pacific arena.
4. That Alaska was essential to the United States as the bridge between the two cultures.

Seward Foresees Outposts

Prophetic as this line of thought was, it hardly exhausted Seward's marvelous powers of foresight. There was the question of offsetting Russia's move into the Orient, while it could still be done on a friendly basis, without the least danger of war. More than that, Seward had foreseen that America's growing position as a world power

would require outposts, fingers if you will, projecting far off its shores. These would have been invaluable, in Seward's time, as telegraph cable terminals and coaling stations, as well as naval bases if the need required, and centers for the development of a great American overseas commerce.

These outposts, according to Seward's far-sighted plan, were to be: Alaska, Midway, Hawaii, Samoa, the Panama canal zone, the Virgin islands, Greenland and Iceland. Eight fingers outward—fingers that could point new routes for peaceful American commercial expansion. Fingers that could beckon the commerce of friendly powers. Fingers that could be raised in warning against a foreign encroachment upon our own shores. Fingers that could close into a powerful fist in time of war.



ESKIMO FISHERMAN

Photo by

Richard Harrington

One of the numerous ways to catch fish is spearing, a method in which most aborigines are skilled. A young Netchilingmiut Eskimo of the Canadian Arctic practices, in the photo above, at the point where the Netchilik River runs out of the lake by the same name. Sometimes the fish enter the lake in huge schools, and almost anyone could spear a meal.



PIONEER STATUE

Photo by

J. Malcolm Greany

It has been said that there are no statues in Alaska because Alaskans are too busy making money to honor their heroes. But beside the Pioneer Home in Sitka is the statue erected to honor the intrepid prospectors whose early explorations opened the Territory for today's generation. Alaskans venerate their heroes as much as other people do, but theirs is still a frontier land and there is still work to do. After a people has conquered the frontier, there is time to build monuments.



Photo by C. L. Andrews.

After two or three days floating down we passed many steamers en route up the Yukon. This was a U. S. Army boat.

Out From Eldorado

By Arthur Jerome Beecher

ON QUEEN VICTORIA'S birthday, May 24, 1897, when I came down from Eldorado Creek, near Dawson, I had thirty troy pounds of gold dust in a home-made buckskin sack in a little old hand grip, and a pocket poke with about fifty ounces of choice nuggets, but I didn't have much else. . . .

My partner, Tommy Conway, and I had burned a hole down to bed-rock and taken out \$16,000 in gold before the water came down the creek, just as our lease on the ground ran out.

I wore a pair of Gold Seal rubber hip boots and a pair of Levy's overalls that were so shiny that I could have used them as a mirror for combing my hair—if I'd had a comb. My shirt was a double-breasted red flannel affair, my yellow mackinaw was badly soiled and on my head was what had once been a Northwest Mounted Police hat. I had accidentally burned a hole in the rim of the hat and patched it with birch bark.

For three months my red hair had been growing without being clipped and it was unbelievably long. My red whiskers had a place blazed off around the mouth to prevent icicles forming in 30 to 40 below weather and

freezing it shut. Altogether, I was a pretty hard looking citizen.

When I got to Dawson, everything was excitement. Rowboats were arriving almost hourly. They were the first boats of the year, made from whipsawed lumber in Lake Bennett, and they contained hundreds of eager stampedeers from the States who had come in via Skagway and Chilkoot Pass.

INTO the big Blue Elephant saloon I walked. It was called the Blue Elephant because it was made of blue drill stretched over a frame of poles and it took only a little bit of imagination to make it seem like an African pachyderm. The floor of the saloon was six inches of saw dust. The long bar was made from native spruce and so were the gambling tables where faro, roulette, craps, blackjack, stud and draw poker were played. These games had all been brought in by the flock of gamblers who had the wisdom to travel light and get in first.

It was customary for a man who had arrived with gold fresh from the creeks to "call up the house." When I came in, therefore, I threw my poke on the bar and cried, "Everybody have a drink."

There was an old ship's bell on a pole out in front of the saloon. As soon as my poke hit the bar the bell began to ring furiously. In rushed scores of carpenters and workmen from among the hundreds who were furiously building shops and hotels on Dawson's Main Street. They had laid down their tools and hurriedly lined up at the bar to be my guests.

Four bartenders served them. They took whiskey, straight. Dawson being in the Northwest Canadian territory, the liquor was pretty good. After giving me a cheer, they hurried back to their tasks.

At the front of the bar was a pair of gold scales about three feet high. The proprietor made a rough count of the glasses, poured out a handful of nuggets from my poke and piled weights to a total gold value of \$160.00 on the opposite side of the huge balance scale. The grade of gold in the nuggets had an estimated value of only \$13 an ounce, so what came back to me was a badly depleted poke.

THE proprietor of the bar thanked me, wanted to know if I didn't want to sit in at the poker game, asked if I had a place to stop and extended the usual courtesies of a place of that

character. Soon someone announced that another small down-river boat was coming in, so I hurried out of the saloon to the bank of the river to see what the newcomers had in the way of supplies and provisions.

Small boats were now arriving every fifteen or twenty minutes. The ice had gone out up river. The tributaries of the Yukon were pouring in their flooded waters.

To add to the interest, steamers were expected up the Yukon from St. Michael any day. But now the advance guard of the 30,000 argonauts from the Lake Bennett route were landing by hundreds.

WE WHO had lived in Dawson a year or more were old-timers, now—Sourdoughs they called us. We lined the bank, asking each Chechako what he had brought in that was eatable and for sale.

Among the arrivals was Charley Moore, a gambler. He had been in Circle City the year before and had gone out over the first ice with the mail carriers. He was coming back now with gambling paraphernalia and a troupe of long-haired entertainers—this was before the days of bobbed hair. He had a Star over whom he was very much enamored. Her name was Lucille.

Lucille was temperamental. She demanded eggs for breakfast. No eggs were available in Dawson. I found out about Charley's dilemma from him.

Hailing a boatman as he drew to shore, I yelled, "What have you got to sell that a man can eat?"

His reply: "I have a smoked Virginia ham and a case of eggs that I packed over Chilkoot Pass."

We immediately entered into negotiations and I bought the case of eggs at ten cents an egg and gave him fifty dollars for the ham. Then, seeing a sealed can, I asked, "What is in that can there?" It was a five-gallon can.

"German desiccated potatoes."

"How much?"

"Fifty dollars."

"Sold."

I carried the three packages to the shack of a man I had met on the trail during the winter, got a hatchet, and opened the can. Instead of dried German potatoes, I found that it was full of imported Key West Perfecto cigars!

With two eggs in my pocket, a slice of the Virginia ham and a box of 25 Perfectos in my hand, I strolled down to the Log Cabin—a big saloon, gambling house, and dance hall with stage and boxes, where Charley Moore's troupe was holding forth.

Each "lady" of the troupe did a turn on the stage and danced the old square dances, waltzes and schottisches of the day with the miners on the dance floor. After the



The newcomers had built boats and scows from whipsawed lumber at Bennett.

dances they visited the boxes where the affluent held forth to enjoy the fun and buy, buy, buy.

Wine was \$30 a pint. Drinks at the bar were fifty cents each. They were one dollar in the boxes.

THE girls who danced with the miners later visited them in the boxes and after every dance the Caller would shout, "Promenade all! You know where."

At this call they would all flock to the bar where the miners would pay fifty cents each for the dance, and one dollar for two drinks, although all the girls got was some cold tea, except occasionally, when they needed a bracer, the bartender would slip them something a little stronger.

I hunted up Charley Moore and showed him the two eggs, the slice of ham, and the box of Perfecto cigars. There was no getting away from him until I had sold him the case of eggs, half the ham, and two boxes of cigars. He paid me twenty-five cents each for the eggs, fifty dollars for half of the ham, and \$25 for the cigars.

With the two eggs in his pocket, Charley hunted up Lucille in the little

community dressing room, showed them to her, and said he would have eggs for her breakfast every morning.

Charley was immediately back in the good graces of his temperamental Star. I learned her salary was \$500 a week and that her percentages from the sale of wine—she refused to dance with the miners—averaged \$250 a day.

One evening while I stood watching the play at the Faro Bank, a man that I knew slightly because I had met him at Circle City the fall before—a professional gambler—asked me why I didn't take a chance. His name was Frank Scow.

I told him I didn't know the game.

He said, "Stake me. I'll give you half of what I win."

I had changed some dust for gold coin at the Alaska Commercial Company store a short time before, so I handed him one ten-dollar and two twenty-dollar gold pieces.

FRANK said, "If we win, when you think we have enough, poke me in the back and I'll cash in."

He was a professional stake-player. He split and made two bets, whip-

We started floating down the Yukon in a scow loaded with trading goods for the Indians.

Photo from U. S. Geological Survey.



sawed the turn, let it ride, got action, was up to the limit, and in a half-hour had a great pile of blue and yellow chips in front of him.

I got "cold feet" and poked him in the back. He got a pay-out check and went to the cashier's window. There he handed me the fifty dollars stake money, then split the balance fifty-fifty. Each share was a little over \$500.

After that, Frank said, "Let's eat. There's a woman over here that just opened up a tent-restaurant and she has a sign 'Pickled Herring.' I haven't had any pickled herring for years. Let's go try it."

We climbed two of the four stools in the tent and the old lady dished up the herring. She had the only kit of pickled herring north of 53. Our orders came to seven dollars fifty cents each. Frank paid the bill.

All the while, hundreds of newcomers who had flocked in from the "Great Outside" walked up and down the muddy streets. Most of them were disillusioned, homesick, and anxious for the big steamers to come up the river so they could get back to "God's Country"—if they had the price. Many were selling the supplies that they had brought down the river with such great hardship, as fast as they could. Luxuries brought big prices.

AFTER I had had three days of sight-seeing, a scow loaded with all kinds of Indian trade goods: calico, drill, and other stuff, pulled up to the bank.

There wasn't any demand for this sort of merchandise at Dawson. The fellow that brought it in had been of the impression that the country was full of wild Indians. Had he brought such eagerly-sought articles of food as canned milk, butter and fancy meats he would have had a ready market at a thousand per cent profit. As it was, he became rather sad and downcast.

I had been a trader on the steamer Portus B. Weare the previous season and had traveled up and down the Yukon. As a consequence, I knew that scattered along the two thousand miles of river below Dawson were many Indian camps where the Indians were then catching and drying king and silver salmon and that they had many fine furs with them for trading purposes. They would be interested in the stuff on that scow.

The steamers plowing up the river were loaded with mining supplies and provisions of all kinds. They didn't have time to tie up to the banks and trade the Indians out of black, silver, and red fox skins; beautiful marten, beaver, land otter, mink and other cheaper furs.

I had decided to make a trip out to the States on the very first outbound steamer to bring in a fine miner's outfit of supplies and equipment to work a lease on the famous Eldorado Creek again. It had been promised me for the coming winter.

I then and there conceived the idea of floating down the Yukon from Dawson on this barge full of trade goods and stopping at the Indian camps. Since the Indians knew me from my contacts with them the year before, and I had the reputation of giving a square deal, I could have a lot of fun on the trip and make it very profitable by trading for their choice furs.

I bought the scow and the entire load of trade goods. The purchase included a very fine English bloodhound.

THERE was a young fellow I'd met who had run away from his ship at Herschell Island in the Arctic and had traveled across the mountains some hundreds of miles to Dawson, suffering almost unbelievable hardships. When he arrived in town he was homesick for the seas, as many a sailor on land usually becomes. He wanted to get back to salt water. I took him on.

The next morning the sailor and I shoved off and started floating down the Yukon in the scow.

We took turns standing watch. When the current drew us toward the river bank where overhanging sweepers might wreck us, the man who was sleeping would have to jump up and help man the sweeps until the scow was again out in the current, away from the shore.

I attached a 250-foot rope to my thirty-pound sack of gold dust. At the other end of the rope I had a float so that in the event of a wreck my little

fortune would be marked by a buoy.

It was daylight throughout the 24 hours at that time of year. The sun circled from east to west, just dipping under the horizon at midnight.

After two or three days floating down with the current which ran from four to six knots, we commenced to pass steamers en route up the river. First there were the big company steamers, then all kinds of steamers that had been built at St. Michael the year before, but which were completed after the freeze-up.

We kept a sharp watch for smoke from fires ahead. These denoted Indian fishing camps. When we came to one we manned the sweeps and worked the scow to shore.

As the Indians flocked around us, many recognized me. Since there was no departure whistle to blow, I usually spent considerable time at each camp and traded the things they wanted for their furs, ivory curios, beautiful parkas, beaded moccasins, and other handicraft articles.

Tasty silver salmon, bear meat, caribou meat, grouse and other delicacies in the way of fish and game made up for the bacon and beans I had lived on while mucking and toiling in the below-zero weather the previous winter. My sailor helper gained forty pounds. I put on about twenty-five pounds myself.

Al Mayo, in the loft of his great trading post at the mouth of the Tanana River, had three thousand marten skins. For a cash price of three dollars a skin, I selected three hundred per-

Both food and gold were stolen at gunpoint as cabin fever got the better of men who had nothing to do but worry about being broke and hungry. Shown below is the bank at Dawson where, guarded by the Mounties, gold was fairly safe.

University of Alaska Historical Library



fect black marten. With the exception of fifty which I made into a beautiful shoulder wrap, I later sold these to the Leibes Company in San Francisco for twenty dollars each.

Eventually we reached Holy Cross Mission which is conducted by the Jesuits about 200 miles from the mouth of the river. There we met the priest, Father Ragerote, the Sisters, and some brother laymen.

The Sister Superior remembered me from the year before when I had stopped there on the river steamer. She had sent a half-breed Russian girl up the river to Circle City in my charge. There the girl was to marry a miner who had sent down for a wife.

I was the first bearer of news downstream that year. I showed them handfuls of beautiful nuggets. I displayed the trading articles that remained—some ladies' fancy goods and men's wearing apparel—and told them I was en route Outside to return on the next steamer northbound. I asked them to accept all the goods I had left as a donation and as an acknowledgment of my good fortune.

They were much pleased. The Sisters sent a very nicely cooked wild goose down to us. I visited at the Mission, heard their charges sing and do stunts and I made a little talk to the young Indians. Altogether, I spent a very enjoyable four days there.

AT three o'clock on the fifth morning, I heard the deep-toned whistle of a boat coming downstream. It pulled in at the landing and I found it was the Bella, a powerful tugboat that would take a large barge on each side of its flat nose and, though each barge might be loaded to the waterline, the tug had power enough to push them against the current at a rate of four to six miles an hour.

I gave the scow to my sailor companion and the English bloodhound to Father Ragerote and hurried aboard the tugboat with my gold and my dunnage. I later learned that Father Ragerote crossed the bloodhound with some Eskimo dogs with the result that he obtained some of the finest, hardiest and fastest sledge dogs on the lower Yukon.

The only ship bound for the States in the harbor at St. Michael was the old steam schooner Excelsior. I bought a round trip to San Francisco and back.

While I waited for the Excelsior to leave, other steamers arrived from up the Yukon and soon at St. Michael were 49 Sourdoughs who had made stakes the past winter and were going

outside. My stake was the smallest among them. We were a nondescript crowd. My hair had been cut with a butcher knife, but my clothing had not improved.

We arrived in San Francisco July 7, 1897, bringing the first news to the outside world of the discoveries being made in the Klondike.

After we had walked down the gangplank at Pier 44 carrying our dunnage and our treasure in dust and nuggets we wondered how we would get to the Selby Smelting Company offices on Montgomery Street with our gold. There wasn't a cab available.

We finally hired a four-horse truck into which we loaded our gold and luggage and all of us Sourdoughs got aboard, drove down the Embarcadero, up Market Street and out along Montgomery; the hardest looking group in the most picturesque costumes that had ever been seen in those days. People stopped on the streets to stare and wonder. Today they would just have said, "Oh, that's a bunch of movie actors going on location."



The crowd followed us down Montgomery Street to the Selby offices. We got inside and lined up at the weighing counter, but they couldn't do business till they had locked the doors to keep the curious outside.

I found that I was number nine in line, and when I had my gold weighed in, the man told me that I would get my gold coin for my dust in twenty-four hours.

I timidly asked if I could have a little ready cash in the meanwhile and he said, "Certainly, will five hundred dollars be enough?"

With five hundred in twenty-dollar gold pieces I went downstairs and tried to get out, but it was impossible to leave that way. The street was blocked and the police reserves, trying hard, were unable to keep a passage open on the sidewalk.

I was let out the back door into one of San Francisco's famous alleys.

In a block I got into the rear door of a clothing store. The clerks were all out on the sidewalk, excitedly talking

about the news that had by now got into the newspapers. Newsboys were screaming out the news about the "Great gold strike on the Klondike!"

When I finally got the attention of one of the clerks and beckoned him in, he looked at me and cried, "Here's one of them!"

"Yes," I admitted, "and I want you to outfit me from head to foot with the best you have in the store!"

Soon rehabilitated sartorially, I had my whiskers trimmed a la Prince Edward of Wales and my long, ragged hair cut.

I crossed to the Occidental Hotel, registered from New York, made the clerk a nice present of a gold-nugget tie pin, and told him I would be there fourteen days until the boat returned to Alaska, said I didn't want to see anybody, and to please give me the best room in the house.

He gave me the bridal suite.

Within six hours, cards were delivered to me from the Bohemian Club, the Olympia Club, the Family Club, the Press Club, and my key box was

full of letters from people who wanted to know how to get to Dawson.

Those were the days before taxi cabs. Everything was horse-drawn. I went out to the sidewalk and asked a cabbie what he would charge me for a cab per day from twelve noon to midnight each day for fourteen days.

AFTER a lot of figuring, he said twenty dollars a day.

"You're hired," I declared. "I have walked, pulling a hand-sled a total of 400 miles the past winter, and now for fourteen days I want to ride."

I had a lot of things to buy and did not know the town. When I wanted to go somewhere I simply went out to my cab and said, "Take me to this-or-that store." Often it was only a half-a-block or so.

The second evening at the hotel I went out and took a walk up Market Street to a place where I'd seen a restaurant that specialized in fresh dairy products.

I hadn't seen a fresh egg for two years. I walked in and ordered three poached eggs. They were good and fresh.

As soon as I'd tasted the first egg, I ordered three more.

When the second three poached eggs were brought, I had finished the first three, so I ordered three more.

The waitress thought there must be something wrong with me. I was the only customer in the place. She went up front and talked to the cashier.

I eventually got the seventh, eighth and ninth egg, and when I had eaten them I tipped the waitress with a nice little nugget worth one or two dollars.



Where civilization went, the pack animal went first, but the terrible White Pass Trail took a heavy toll of both men and animals.

Monument at Dead Horse Gulch

by Ethel Anderson Becker

Skagway, Dyea and the passes were choked with freight, and each boat brought more. It had to be moved to Dawson, to keep men alive while they dug fortunes from the ground.



HOW many of us pause at roadside markers to read in crisp, short sentences the dates and facts pertaining to events in the progress of our nation, and wonder who planted these markers, who hung the plaques, who financed the sculpture?

Here, we are reminded of an Indian massacre, of pioneers pushing westward, northward, crossing a desert, carving a new trail across a mountain range, steering a raft down a turbulent, unknown river. Here a battle was won, there a battle was lost. Here a hero was born, there a leader died. These hundreds of markers, east to west, south to north, pinpoint tragedies and triumphs, heroism and treachery in the building of our great society.

Who cared enough to mark the ground on which someone forced open a door, that we might walk through with lighter step?

This is the story of the bronze monument in Dead Horse Gulch and how it came to be, high up above Skagway in

the Sawtooth Mountains of Alaska, on a lonely spot beside the White Pass and Yukon Railway.

The pack animal has been vital to migrations and gold stampedes the world over. Every '49er led a burro or mule to the diggings on Sutter Creek. When the Cariboo country beckoned, stampeder loaded their pack animals and headed for the new bonanza in British Columbia, fording rivers and cutting roads through hostile Indian country. Wherever civilization went, the pack animal went first.

Horse Markets Spring Up

Then the Klondike gold-rush broke in frenzy. As soon as the *SS Portland* docked with her visible proof of the new gold discovery, men began to search for pack animals to carry grubstakes over the Sawtooth Mountains to the headwaters of the Yukon River. Old Dobbin disappeared from the pasture, and little Joe's spotted pony went with papa. Someday the pet pony would return with a gold-studded collar, papa assured grieving little Joe. Horse markets sprang up in coastal cities. Every nag was salable, and prices zoomed skyward. Corrals crawled with wild-eyed cayuses caught on the prairies. Animals from the range would be stronger and tougher than the rest. What matter if they were untamed? Time, a load, a clubbing or two would soon cure that.

Strings of Army mules, burros and oxen, tougher than any cedar they ever pulled over a greasy skid road, joined the migration. Texas steers lumbered up the streets of Seattle, their wide spread of horns scattering the crowds. Steers and oxen, once their packing usefulness ended, could be used for food.

Rumor soon had it that horses died by the hundreds on the terrible White Pass Trail. No matter. The job had to be done. Those boatloads of freight had to be moved to the gold fields. Those mountains of supplies were to keep men alive as they dug fortunes from the earth.

Life was cruel for the pack animals even before they left Seattle. Tied to hitching posts, they were often left without feed and water while their owners went about the business of going North. Steamer space was at a premium, and once loaded, the animals stood in solid rows, suffocating in the holds or freezing on the open deck, huddled so close together the heaviest seas could never bowl them over. Again they were scantily fed and watered, if at all.

In the beginning, Skagway and Dyea had no wharves, no proper way of unloading animals, and they were dropped into the sea. Wild-eyed and terrified, they swam until they found the land. Perhaps the cold water was soothing to bodies stiff and tired from close confinement. Who knows?

Along the rivers of the West there was always feed, for grass grew lush and green. Not so along the boulder-strewn White Pass Trail. There were no river meadows, no pastures where horses could forage for themselves. The country stood on end, with bluffs and crags bare except for a few lichens and gnarled



Bert Hartshorn, right, was a blacksmith at Log Cabin. Mrs. Hartshorn, good lady of all pack animals, joined him there in July, 1898.



trees which grew in the sharp ravines. Summer edged a fringe of green along the creeks of the delta, but for the most part the trails were barren. There was no shelter in winter, and no water along the frozen, blizzard-whipped mountain pass. Hay and oats were prohibitive in price.

And every boat dumped another mountain of freight, the life blood of the stampede, at the end of Lynn Canal.

Bert Hartshorn had a blacksmith shop at Log Cabin. The White Pass Trail passed not twenty feet from his cabin door, and day after day he shod the

cracked and bleeding hoofs of pack animals. Sometimes their legs were scarred with great bruises and ugly gashes, relics of encounters with jagged boulders on the rocky trail. Foul saddle sores ran pus where boxes gouged out flank flesh. The glare of snow blinded their eyes. Blizzards froze their lungs. Scores of animals never reached Log Cabin. They died beside the trail. They died of thirst, starvation, overwork, freezing.

The trail was a graduated horror from Skagway to the summit. The closer to the summit, the bigger the boulders, the steeper the trail. Overloaded pack ani-

Horse flesh formed part of the trail in Dead Horse Gulch, where no less than three thousand animals died. The carcasses of six are seen in the few yards of trail shown below.

Asahel Curtis





A shipment of live turkeys, Dawson-bound, made light but awkward loads. Few teamsters knew how to load angular freight so it would not gouge the flesh of pack animals.



In places the trail was so narrow it scarcely offered footing among the boulders, as seen above. Pack saddles were left on, though empty, for the return trip, to hide bare flesh and bone. The Mounted Police were ordered to shoot animals that had bad saddle sores.



imals missed their footing as they dodged boulders or jumped sump holes, and lay legs up, screaming in agony and despair. Carcass piled on carcass while the stampede moved on to the gold fields some six hundred miles beyond.

Faithful to the End

Old Dobbin, faithful to the last ounce of strength in his emaciated carcass, stumbled off the narrow trail and died at the foot of a cliff. Little Joe's spotted pony had not the strength to rise one morning, and he lay there rotting, still tied to a tree. Horse flesh layered with snow and ice became part of the trail. In Dead Horse Gulch alone, some three thousand pack animals laid down their lives.

Spring melted the snow and ice, and with the heat of summer came the stench of rotting horse flesh. The air was heavy and foul with it, and big, ugly blow flies, bred in rotting horse flesh, covered every surface of rock, tree or bush. In wind-driven clouds they swarmed upon Skagway and spread like a black shroud over tents and grub piles. Not until business men marched up the valley with dynamite and shovels was the city relieved of the loathsome swarms.

On July 1, 1898, Florence Hartshorn landed in Skagway and went to join her husband at Log Cabin. Never was she able to forget that awful trip. Thirty years later, speaking to the Ladies of the Golden North, she said:

"I arrived in Skagway to find that city a mob of excited stampederers. In three hours I was on my way to join my husband at Log Cabin, thirty-two miles through the mountains. I hired a pony from Joe Brooks, the well-known packer. Joe Brooks' pack train consisted of twenty-five horses tied head to tail. Each carried from two hundred to two hundred and fifty pounds.

"Before leaving Skagway I was told not to drink one drop of water along the way, so I bought a half-dozen lemons. The men wondered what I would do with the lemons, but this was July and the weather was hot. Lemons would quench the thirst. Before long I knew why I should not drink from the streams, for on all sides were dead horses. Not a few, but hundreds. My pony would stop, look down, then step carefully over her comrade of the trail.

"Once my pony stopped to drink at a sparkling mountain stream. How I wanted just one sip! Glancing up, I saw two dead horses not five feet away, and one was lying in the clear water.

"Out of our train of twenty-five horses, five lost their lives on that one trip. Their loads were added to the already heavy loads of the other pack animals.

Cripples Shot

"My husband was the blacksmith at Log Cabin. The trail passed in front of our cabin, so I saw and knew the shocking story of the abused pack animals. The packer would bring his horse to be shod. I will never forget the look of a

horse as I fed it a few scraps of bread or a dish of water. I have seen skinned hip sores as large as my two hands, where the bone showed through. The packers always kept these sores covered with blankets. I wondered why until I found out that the Mounted Police were ordered to shoot on sight any horse so crippled.

"Don't think I want to forget the stam-peders. Oh, no! For I have seen men passing who were carrying loads so large that only their heads and feet were showing. I have seen men sitting upon the trail with their huge packs resting on a rock or log. I also saw a few crosses made out of whatever was to be found upon the trail. Some men, like the pack horses, gave up and let the stampede pass them by. But if a man's pack got too heavy or sore spots came, he could shift the pack straps or lighten the load by throwing something away. The trail was littered with useless articles. But not for the horse. Under the lash, he had to struggle on.

"And what did I do with my lemons? I was three days on the trail. I ate the lemons and held the cupped rinds over my nose to shut out the terrible odor."

The building of the White Pass and Yukon Railway ended the need for horse or man to pack supplies over that awful mountain pass, and the gold rush to the Klondike, as a gold rush, was over by 1900. Stampedeers dripping with gold-nugget watch chains still returned from the Dawson diggings, but infrequently. By 1928 the horrors of the White Pass Trail lived only in memories, and were talked about only when sourdoughs gathered to live again their experiences along that almost impossible route. For the most part, the pack horse was forgotten even by those who had witnessed his sufferings.

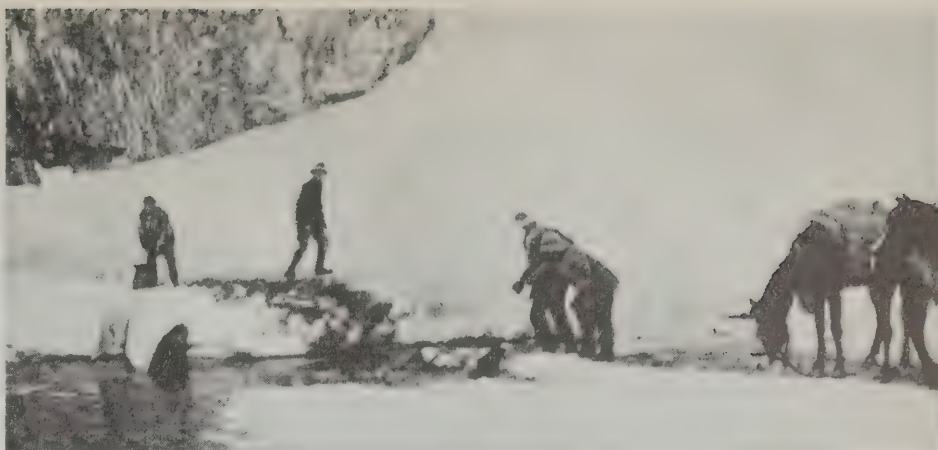
Forgotten, perhaps, by all except Florence Hartshorn. Little Joe's spotted pony, faithful old Dobbin, the little pony she had ridden to Log Cabin, stepping carefully over its dead comrades—these were memories the years could not erase.

With an inborn quality of doing something about anything which disturbed her, Mrs. Hartshorn determined that a memorial should be erected to the unrewarded sufferers on the White Pass Trail.

Where to Begin?

In July, 1928, Mrs. Hartshorn wrote to C. D. Garfield, chairman of the Alaska Division of the Seattle Chamber of Commerce. For many months they worked on the problem together. She chose the Ladies of the Golden North as the most likely sponsor of her plan. In the spring of 1929 she presented her idea to this organization.

After the graphic description already quoted, she said, "No doubt my story brings back a picture not forgotten—only dimmed by the lapse of time. Without the pack animal there would never have been a Klondike as we know it, for men would never have been able to carry provisions over the White Pass Trail to feed the hundreds already in the interior. Also, these animals brought quick



Hegg Photo

One misstep, hard to avoid, was often the last. In the photo above, a horse has slipped into a stream. Worse luck for the horse, he was rescued and had to continue the trip.

prosperity to the Northwest. Perhaps now the Northwest will help erect this memorial to the memory of those pack horses."

Mrs. Hartshorn's idea took hold. Newspapers over the entire nation gave it publicity. Said the *Alaska Weekly*, on April 19, 1929: "The Ladies of the Golden North are sponsoring this movement and will be glad to hear from any members in the Northland or elsewhere. The committee for the White Pass Memorial Fund is composed of Charles D. Garfield, Mrs. Alice B. Jones, president of the Ladies of the Golden North; Mrs. Catherine Davin, vice-president; Mrs. Dora Miller, secretary; Mrs. Emma Starrett, treasurer; and Mrs. Florence Hartshorn, originator of the idea."

Were Mad for Gold

First to offer his assistance was Packer Jack Newman, who sent a check for fifty dollars. "I am enthusiastic about the memorial," he told Mrs. Hartshorn. "I was there, and I must admit that sometimes I was just as brutal as the rest. We were all mad—mad for gold, and we



The "impossible" railroad, running high up on the mountainside above White Pass City and Dead Horse Gulch, above, mercifully ended use of that next-to-impossible trail.

"Under no circumstances should you drink from the streams on the trail," the packers told Mrs. Hartshorn. She soon saw why. Streams were strewn with rotting carcasses.





The Klondike rush could not have been as it was without pack animals. Men could not have moved the necessary freight. But once in Dawson, much freight still had to be hauled out to the creeks. Pack animals had this chore too, as shown at left.

did things we lived to regret afterwards.

"We are not erecting a statue to willing, well-fed servants of kind masters. Our animals had to be willing or get a club, and as for justice, it was common practice for a man to give his animals a few good feeds in Skagway, load them with all they could possibly carry, and try to make Lake Bennett with them before they died of starvation. There was big money in packing, but hay was selling for ten cents a pound and we couldn't afford to waste it on weaklings. But if the weaklings lasted to the end of the journey, that was velvet.

"Many a horse or mule carried four hundred pounds up a trail that a man could scarcely climb, with a pack saddle covering sores as big as a man's fist. Flour, sugar, tents and such made a softer pack, but few drivers were experienced in loading such freight as oil cans, boxes and canned goods. Lumber, knock-down boats, windows, stoves, beds, machinery—every need of a migration to a new land—became the burden they must

carry. It was hell for the pack animals.

"The Mounties were the most humane. We unloaded our pack animals at Lake Bennett but left the pack saddles on coming back so the Mounties at the summit couldn't see the terrible sores on their backs. We sometimes got another trip out of them before they died. Sometimes the horses were shot. Sometimes they were left to starve. We couldn't waste ten-cent hay on a worn-out horse."

Letters soliciting support continued to go out, and answers came in.

From the Skagway Women's Club: "We are not very rich at the present time, but perhaps there is a way we can be of some benefit to you."

From Jennie R. Nichols of the State Humane Society of Washington: "... I am in full sympathy with any movement for the betterment of 'man's best friend.' ... Just last winter we spent many days and went to great expense that we could ill afford to rescue more than a hundred pack horses that, after bearing the burdens of the summer trails, had been

turned out upon the prairies to starve, some of them being actually frozen in their tracks by a sleet storm which followed a heavy snowfall. Thus we are going on, struggling against great odds. Need I say more for you to understand that the little we have to spare must be given to those living, suffering creatures."

Sometimes a letter soliciting funds boomeranged.

From the King County Humane Society: "We believe the kindly feeling for animals which you have expressed in your letter would make you a very desirable member of our society. The annual dues are from one dollar to twenty-five dollars per year."

But, in a later letter from the same society: "... At a meeting of the board it was voted to give ten dollars for this purpose, which we are enclosing."

Mrs. Hartshorn continued to write to clubs, associations, chambers of commerce, individuals. Her zeal knew no bounds. She gave talks, held conferences, filled each day with work toward promoting the project and collecting the necessary money.

Among the many interesting letters received was one from Clifford Movers of Wichita Falls, Texas: "... I shall never forget my experience with my ponies in the summer of 1912, in the Shushanna stampede. After staking some ground at the head of Wilson Creek I went back to the Pea Vine Bar near the end of the glacier and found one of my ponies still alive. She was very weak but I finally got her as far as town, put her in an unfinished cabin and fed her beans and rice until I finally persuaded Dan Stacey to sell me fifty pounds of oats for a nice fifty-dollar bill. After she rested a day or two I started out to McCarthy with her with the intention of boarding her for the winter, but met Harry McFate at Hot Cake Marker's Roadhouse on the White River. Harry's horse had died, so I just gave him the pony for his promise to take care of her. She died that winter. Nearly all the horses died that year.

"Your cause is a worthy one. I gladly send my small contribution."

Funds began to accumulate. The possibility of a plaque became real. Estimates for the sculpturing began to come in. The committee could now proceed.

On August 24, 1929, two hundred people came by train to dedicate a monument to pack animals that died on White Pass. "The happiest day of my life," said Mrs. Hartshorn.





KODIAK ISLAND



kodiak

Frontiersmen flock to this town on the island,
Trappers and fishermen headquarter there,
Hark to their stories of salmon-swamped dories,
Sea otters, blue fox and Kodiak bear!

Warm are their words as the Japanese current,
(Chill are their eyes as the frosty stars' stare)
Thick as the fogs that are holding them bar-
bound

Are those tales of adventures with Kodiak bear!

So come tilt your glass! You'll see fur seal a-
swarming

As they tell how the trappers and fur-growers
fare,

But watch out! Or some hungry sourdough will
sell you

A hunt for a nineteen-foot Kodiak bear!

J. C. F.

Everyone wanted the image of a pack horse on the plaque, and two if funds allowed. The inscription became the next issue.

Packer Jack Newman thought back to his trail days and sleepless nights, puzzling on a suitable epitaph. Among papers left by Mrs. Hartshorn is a copy of a letter she wrote to Packer Jack: "... Why mention the mule when all over the world has gone the word, 'To the pack animals,' which covers both horses and mules? I have read through seventy-five books on the North, and 'pack horses' was the way writers described the beasts of burden. I saw only one train of mules and hundreds of horses."

An inscription was finally decided on, and it was a message direct from the heart of Packer Jack, as though to make some restitution for his cruelties in his days on the trail:

The Dead are Speaking

In memory of us three thousand pack animals that laid our bones on these awful hills during the Gold Rush of 1897-1898. We now thank those listening souls that heard our groans across this stretch of years. We waited but not in vain.

The money was raised. Plans were complete. On the memorial would be the figures of a pack horse and a pack mule.

One morning early, Packer Jack Newman knocked on the door of James A. Wehn, the Seattle sculptor who had made the statue of Chief Seattle and of other persons important in Seattle's history. Packer Jack had come to discuss the final plans for the memorial to the pack horses of Dead Horse Gulch.

Wehn felt the inscription was rather long, but Packer Jack insisted it had to be. "Hell," he said, "I owe more to the pack horse than anyone else. If more letters cost more money, I'll pay it."

Packer Jack's face sobered as he thought back to his days on the trail. He remembered the day Old Nellie, the lead mule, jinxed the pack train:

It had been dark that morning, and cold. Bitterly cold. A White Pass wind knifed through the moss-chinked logs and pricked his face like icicle points. From the barn came the whinny and restless stomping of the pack animals, and a fool mule brayed. Hungry, no doubt, as well as cold. That handful of hay at last night's feeding wouldn't begin to fill her belly.

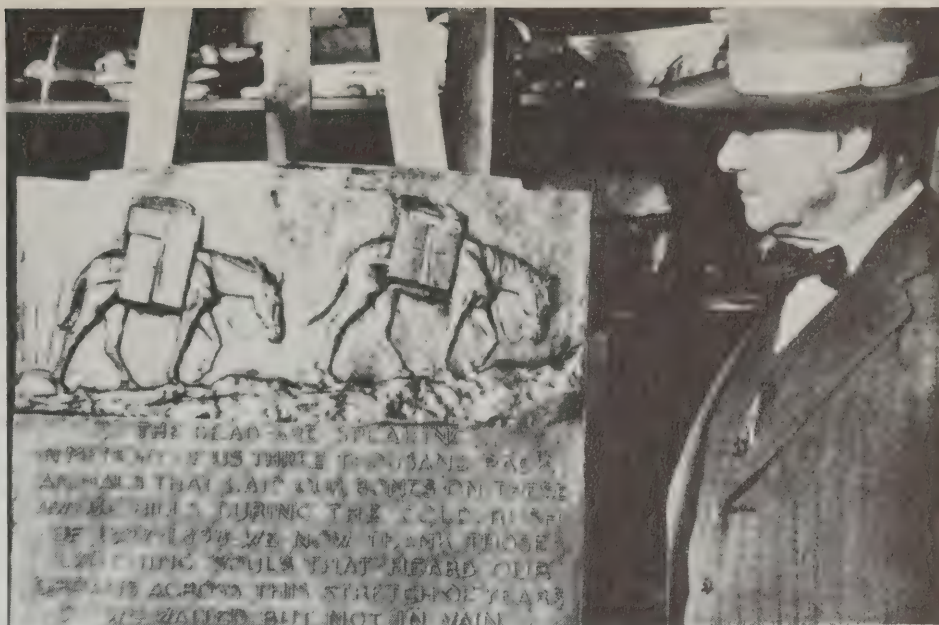
"Hey, Mike! Time to get up."

The teamster in the next bunk grunted and finally rolled out of his blankets.

"I shoulda' stayed in Arizona," Jack mumbled as he pulled on his clothes. "Maybe we had to fight Indians there, but we didn't freeze to death, and there was always a chaw of grass for the pack mules. What's an Indian fight if you're a crack shot? I am, you know. A two-handed pistol-shot champion. This Alaska is a hell of a place."

"We're making money, ain't we?" Mike said as he whacked at the ice in the water bucket.

"We earn it hard enough. I'll get



Hegg Photo

"I owe more to the pack horse than anyone else," said Packer Jack Newman, inspecting the finished plaque in the photo above. "If more letters cost more money, I'll pay it."

breakfast. You go feed. Give 'em oats, but go easy."

"I'm coming, I'm coming," grumbled Mike as the bray sounded again.

Packer Jack looked out the window. Ice edged the Skagway River and lay thick on the ponds. The sky was slate-gray. He could hear the landing whistle of a steamer. *Alki*, maybe. She was due again. Or the *City of Seattle*, with another load of stampedeers and a hold full of freight. Skagway was already choked with supplies. The wharfs were piled high and Dawson was hollering for the whole shebang before the Yukon froze. What did they expect of him and his pack train, anyway?

Jack greased the top of the stove and poured on gobs of sourdough batter for hot cakes—enough for breakfast and a trail lunch. When Mike returned, the coffee was ready.

"Some of those mules don't look so good this morning. They're skittish, got the shakes or something. Nellie's full of the jitters."

"Will they stand another trip?"

"Dun'no, Jack. A critter doesn't last more'n six weeks, you know."

After breakfast he and Mike headed the twenty-mule pack train for the wharf to load. A williwaw threatened snow. He felt uneasy as he watched the

At Inspiration Point, high above Dead Horse Gulch, the monument stands, reminding all who pause to read that here many lives were lost to ease the way for those who followed.



scudding clouds. Nellie, the biggest mule, was limping badly. He stopped the train and examined her foot. Just a rock caught in her shoe. He forked it out. Pus began to drain. She would be better now.

They lumbered out onto the wharf to load. Nellie slowed her pace, raised her head and brayed into the wind. Echoes bounced off the cliff and down Lynn Canal. He gave her a swat on the rump and she settled down to wait for her load—two barrels labeled flour. They loaded heavily—two to three hundred pounds to the animal—and headed out through Skagway and up into the mountains. Nellie raised her head and brayed again, long and loud. He cursed her and heaved a pebble at her flank. She didn't flinch.

What ailed that mule, that she couldn't keep still? Her mood was contagious. The pack train was already nervous and jerky. Even the most sure-footed animals wobbled over the rocks along the Skagway River. A merciless wind met them with a blinding snow in the pass. The trail grew steeper and clung like a thread to the mountainside. Before they reached White Pass City, ice had caked chests, legs, heads, packs, and at intervals that hideous bray rose above the wind.

Then Toby, top-heavy with his load, slipped and rolled a hundred feet into a ravine, taking Bill with him.

The train was halted. Two shots put two animals out of their misery. Their loads were retrieved and added to those of the remaining mules. On the trail stood Nellie, braying long and loud like taps over the dead bodies. He threw another curse and another rock at the offending animal. The train moved on. The trail was a particular horror that day, with the rocks ice-covered and slippery. Up, up they climbed, the narrowness scarcely affording footing.

Shortly after noon Nellie brayed again, sending a new wave of nervousness along the train. The boulders were bigger now, less firmly imbedded, and aching feet could not step high enough. Old Ned stumbled and went down, one leg broken. A bark of the Colt and Ned's misery was over. His pack was removed and added to Nellie's, her penalty.

Slowly and haltingly the mule train advanced up the canyon. The higher they went, the colder it got. Perhaps that mule, Joe, was snow-blinded. Perhaps his eyelids were frozen together. Perhaps the load shifted and made hip sores no longer bearable. Who knows why Joe lost his balance and rolled three hundred feet to the bottom of the canyon at Inspiration Point? No stopping now. They'd all freeze to death. His load would just have to stay there, and probably he was dead anyway.

Damn that Nellie! She was possessed, that's what! The whole trail howled with banshees. Wouldn't they ever get to Log Cabin?

Another bray, and a halt in the line. Jack swore and ran along the panting, steaming animals to investigate. Mollie was down at last. He was not surprised. He hadn't pinned much faith in her that

morning. She was saddle-galled, old and weak. They couldn't waste ten-cent hay on an animal that might not last the day out.

Mollie groaned when he tried to raise her with a kick—a groan that was to haunt him through the years.

"No use, Jack," Mike said. "Just as well unload her and put her out of her misery."

A long, long bray joined the crack of the Colt. Jack turned the gun on Nellie, but he did not shoot.

"I told you this morning she was jinxed."

"She's got us all jinxed!"

An hour passed before the caravan was ready to move on. Sixteen animals, heavily loaded in the morning, now carrying the burden of twenty. Again they wound their slow way up, up toward the summit. The wind was a blizzard, and ice stung like needles. Saddle sores oozed blood. It ran down the legs of the mules and left a red-stained trail in their wake.

At a dangerous curve on a high point, Nellie suddenly lunged crosswise in the trail. For a moment she stood like a statue. Then up went her head and her raucous bray joined the eerie whine of wind in the stunted trees.

Nellie Has Enough

Mike, swearing, heaved a rock at her and started up the line. But Nellie did not wait for the rock to strike. She had had enough. She lunged out into space, and moments later came the crash of her body from four hundred feet below.

Gone was Nellie, gone the jinx she had carried—two barrels of contraband whiskey, labeled flour.

Packer Jack Newman shook his head to clear it of haunting memories. "Hell," he said, "if more letters cost more money, I'll pay it."

In April, 1929, the *Anchorage Times* reported: "Plans are nearing completion for the installation of a bronze plaque on the granite wall of Inspiration Point, almost two thousand feet straight up from Dead Horse Gulch, 'to the real martyr and hero of the Alaska gold rush, the pack horse.' The movement to honor the pack horse is credited to Mrs. Florence Hartshorn. The Ladies of the Golden North sponsored the undertaking."

Inspiration Point was a spot on which Michael Heney, the engineer who planned the route of the White Pass and Yukon Railway, had stood many times, his gaze sweeping across the magnificent panoramic view before him—the jagged Sawtooth Mountains to the southeast, the glacier-topped Mount Pinnacle to the southwest, to the south the sun-glazed sheen of Lynn Canal.

"Truly, this is Inspiration Point," said Heney.

Far below he could see the line of stampede and pack animals struggling along a trail so narrow in some places it was almost no trail. Far below was Dead Horse Gulch.

Interest mounted as plans progressed. Wrote A. P. Kashevaroff, curator of the Alaska Historical Museum in Juneau, "I am sure the logical place for the cast of

the bronze tablet is in the museum in Juneau. I will provide space, even if I have to remove some other specimen of less historical value to give the tablet a prominent place . . . I am gathering all the data possible on this event so that the record will be complete."

The cast was eventually shipped to him.

The *American Lumberman* wrote: "Alaskan women plan a memorial to the pack mules who lost their lives in the gold rush. Maybe we men will be appreciated yet."

Mrs. Hartshorn returned to the Yukon country to extend invitations to the unveiling. Where once she had gone on horseback, she now went by train.

Again she stood on Lake Bennett's shore, where ten thousand stampede at one time, their single purpose the building of boats, had comprised the greatest boat-building community in history. The balm of Gilead sweetened the air, and the shimmering waters of the lake reflected the brilliant colors of fireweed and larkspur.

The Glorious Life

A wave of nostalgia swept over her. Here, Bert Hartshorn had been an engineer on the *Gleanor*, which carried gold-seekers and grubstakes from Bennett to Caribou. Here, one winter when a quick freeze caught them in the middle of the lake, the family had lived for six weeks on board the *Gleanor*. Here, after the gold rush had waned, her daughter Hazel, and Daisy, the daughter of Skookum Jim, and George and Kate Carmack's little girl, had played small-girl games on the lake shore. What a glorious life it had been!

On to Dawson and the Klondike. The gold fever which had glazed the eyes of some fifty thousand stampede was gone now, but the glamour of early days still lingered. Here there were old friends to visit, and more memories. Here, her daughter Hazel had grown up, then come home after studying music and dramatics in Seattle, and settled down to stay. As Mrs. Chris Gloslie, she was content to be a part of the Klondike.

She watched the dredges and walked along the tailing piles of the Yukon Gold Company operations, where her son-in-law was now superintendent. Along those creeks of the Klondike, within a radius of twenty-five miles, fifty-one million dollars in gold had been washed out between 1896 and 1900, and the same land, re-dug and re-dredged, was now yielding more riches. Where caribou trails had crisscrossed the country, roads now fanned out in every direction. Stampede disappointed in the Klondike but not in the Northland had spread out to prospect other locations. Nome. Fairbanks, and many other prosperous towns and villages had come to be.

It would have happened anyway, sometime, but surely the mules and horses in Dead Horse Gulch had made it happen sooner.

She remembered the lean years before the gold rush, when people in Seat-

tle were losing their homes and their businesses, and digging clams and trading with the Indians for venison and fish. Overnight the Klondike had changed all that—money flowed again across the counters of the Northwest.

Distinguished Guests

C. D. Garfield wrote to Mrs. Hartshorn while she was in Dawson: "I am to let Governor Parks of Alaska know the date of the dedication as soon as possible. Will you see George Black, M.P. and gold commissioner, who is now in Dawson, and invite him to the ceremonies. . . . We should have a Canadian flag to drape the memorial as well as the American flag, for the act of unveiling."

Important donations other than cash were received. The Alaska Steamship Company made no charge for delivery of the plaque. The White Pass and Yukon Railway erected the base and pedestal and supervised the placing of the plaque. The Skagway Women's Club prepared to receive the dignitaries who would arrive for the ceremony.

On the morning of August 20, 1929, the SS *Dorothy Alexander* cast off from her Seattle wharf and steamed northward with the dedication crowd. It was a jolly group, vacation-minded, eager for a glimpse of the rugged land to which

they owed much. And they, like everyone who ever gazed upon the grandeur of the Northwest Coast, were awed by the beauty and majesty of mountain and sea.

The *Dorothy Alexander* plowed up Lynn Canal in the early morning of August 24, and tied up at the Moore Wharf. Among the crowd to welcome them was Florence Hartshorn, her face radiant with joy of a mission accomplished.

At eight-thirty the White Pass and Yukon Railway train pulled out of Skagway and up the tracks which many had said could never be laid. Now, passengers looked down into a winding ravine which had once been the White Pass Trail. The train stopped at Inspiration Point, high above Dead Horse Gulch, and two hundred persons from Skagway, Whitehorse, Carcross, Dawson and Seattle disembarked.

Among the group were Herbert Wheeler, president of the White Pass and Yukon Railway, V. I. Habin, superintendent, W. C. Blanchard, chief clerk, and others of the railway officials. Garfield read messages from those who could not attend. From Governor George A. Parks of Alaska, "Those who conceived the plan and the pioneers who contributed to the memorial are to be congratulated. It is an appropriate trib-

ute to the pack animals that made it possible for the pioneers to develop the resources of the Yukon."

From Packer Jack Newman, "I am with you in saddened spirit. . . . After thirty years I can still hear the hills echo with the sound of gold-crazed men."

Garfield delivered the dedicatory address, historical and appealing, a brief account of the gold discovery and the human struggles which had led to the opening of the Northland to developments even richer in promise for the future than those already achieved. "This memorial," he said in closing, "commemorates for all time the service of man's faithful friends among the lower animals."

Then Florence Hartshorn drew aside the flags of two nations and exposed the monument. "It was the happiest moment of my life," she said later.

The services completed, the dedication party continued by train to Lake Bennett. Returning in the late afternoon, they paused to read the inscription which has said to thousands since that someone cared enough to mark this ground on which a door was opened, that they might walk with lighter step.

"The dead speak. They waited, but not in vain." ▲

Patsy Henderson's Klondike Story

COURTESY OF ELLA LUNG, AUTHOR OF *BLACK SAND AND GOLD*.

CARCROSS, on the north end of Lake Bennett, was a large Tagish Indian settlement before white men came into the area and gave it its name, a contraction of caribou crossing. During the Gold-rush, Carcross was on the trail of stampedes going over White Pass into the Klondike and into the Atlin mining district.

Today there are about three hundred people in Carcross, of whom perhaps the best known and certainly the most colorful is Patsy Henderson, last survivor of George Carmack's party who discovered gold in the Klondike. When the little narrow-gauge train of the White Pass and Yukon Railway stops in Carcross, Henderson meets the passengers and delivers a lecture on the history of the village and the discovery of gold.

"He stands on a platform in the waiting room," said Ella Lung Martinsen, who heard Patsy's lecture last summer, "and shows models of Indian fish-traps, bear-traps and beaver-traps he has on a table. He explains these, and tells the exciting story of the discovery of gold. He is a natural-born actor, with expressive eyes, features and hands, and he holds his audience spellbound. It's impossible to exaggerate the wit and native charm of his personality."

"His wife always sits at the table a little to one side, and sometimes his small grandson is with her. She is ev-

idently very proud of her famous husband. She herself does the intricate beadwork on his handsome caribou-skin costumes. Before I left she begged me to send her some brightly colored beads, and I sent her a boxful. I do wish I could have seen her face when she opened it! But she can't write, so I'll never hear from her unless she gets someone else to write to me."

Patsy belongs to the Yukon River tribe. His Indian name was Kulsin. The name Patsy Henderson was given him by George Carmack. He was born in a village twenty miles from Carcross, to a family of nine boys and one girl. Only seventeen when he participated in the discovery of Klondike gold, he was too young to stake a claim.

Recently Jennie Mae Moyer took Patsy's lecture down in shorthand, retaining the phrasing, pronunciation and style as closely as possible:

LADIES and Gentlemen: I am going to show on this feesh trop (demonstrating from a model) how we get the feesh this way before white man. This feesh trop now against the law. We don't use no more. Caribou snare, moose snare, fox snare, beaver net, all against the law. We don't use no more.

This trop is modern trop—"dead fall." We use for marten and mink. Both same size. When they start out, stick falls on neck. We don't quit this trop. When mink get in there and no



Patsy Henderson, surely the most colorful resident of Carcross, lectures on the early days and the discovery of Klondike gold. Shown with him above is Mrs. Henderson, who does the intricate beadwork on his caribou clothing.

way out he touch the bait. Cross piece drop on back and kill him. No rub the fur and he die quick, no suffer. We still use this trap, we don't quit yet.

This is gopher snare. We set snare in gopher hole, gopher comes, two little stick drop and pole springs up, gopher caught. They drop at same time this spring up. When he pull, more choke. He choke hisself.

Now I show you how we catch beaver with net. Beaver has house on the bank, but hole from house away down in water, come out five, ten feet from bank. Place net one end fairly loose, easy break. One end safe, fastened tight on shore. We tie string on net, it moves toe-nail bell on willow on shore. When beaver pull the net he makes a bell on shore. We know beaver caught. We pull him in. When he make bell, we pull him in on the shore quick before he chews net. In five, ten minutes he chews net, gets out through hole and gets away. We kill him with a club. Hit him on the head. Now by this time against law. We don't use no more.

This is the Klondike story now. I am going to tell Klondike story. Here is the man (pointing to a picture on the wall) who found the first gold. That man's name is Dawson Charlie and he find gold in '96 the seventeenth of August. He is my brother and his partner, Skookum Jim, my uncle. Another partner, George Carmack—he is a white man, George Carmack—and myself. Four of us. Now these people all die excepting me. The time we find gold in the Klondike, just a kid I am. Old man now.

I WANT to tell you a little story about George Carmack. George, when he came to this country about '88, no white man here that time. No store. Just Indian around here. So that George Carmack came from outside Chilkoot Pass. When he come this country he married Skookum Jim's sister, my aunt. He stay around here with Indians.

First year he didn't understand the way Indian live. When he stay with Indian two years he understand. At that time we don't work for nobody. We work for ourselves. George Carmack likes this. He don't work for nobody. He stay around here five years. He got tired around here, and he went down Yukon River. He never came back for two years.

We miss him. We go down looking for him—Charlie, Skookum Jim and me—built little rowboat ourselves. No machine, all hand work. We rowed down the Yukon from Tagish. Two weeks. When we come down to Klondike we find him, George Carmack. He stay among the Indians on the Klondike.

We told him we come down, look for you. He tell us, too bad you fellows look for me long ways, and he tell us, we can't come back till winter time, till river frozen over.

So we stay and put feesh trap (fish trap) in water on the Klondike River. Feesh for winter, feesh for dogs. After awhile George Carmack he tell us, one man come up the river before you fellows. That man he told me he found gold last fall away back and that is where he went again, that man. That man is named Robert Henderson. He is a white man.

We haven't seen him but George saw him. George tell us, let us look for that man. Maybe he found lots of gold.

He tell us like that, so we go look for him, Charlie, Skookum Jim and George Carmack, all three look for Bob Henderson. That is the time they find gold, but I stay home in camp on Klondike. I look after feesh trap and dogs in camp. Three people leave Klondike camp and start off up the creek, they find the first gold eight miles from camp. Dawson Charlie found ten-cent nugget, little pinhead.

He didn't find nugget in creek. Find on side hill on top of rock. So we went up creek. We see gold, we pan it. But at same time look for Bob Henderson and find him away back, maybe forty miles from the Klondike. Two-three-day trip we find him. Bob Henderson has got a creek (Gold Bottom) and he got a little gold. He stay there alone.

Those three people stay at Bob Henderson's camp one night, the next day they turn back different creek and they see gold again. Every time they come down a little ways then they see gold, but they look for good large place, nobody bother, they pan. So when they come down halfway they take a rest on top of bank and one man go down creek to get drink of water. Skookum Jim go down to creek for drink of water. When he took drink of water he see gold. When he through drinking he call, "George, come down here, bring down shovel and gold pan, and we try here."

When George come down to the creek, "Look, George, look at gold in the rock."

But George say, "All that is gold." But gold on creek he pan. First pan, fifty cents gold. He tried a little bit above. He found lots of gold. A little below, lots of gold. Twenty minutes, panned five dollars coarse gold. Then George say, "I think we have a good place. I am staking claim."

Staked claim for three people. When they staked claim they named creek Bonanza. First creek to be found gold in Klondike. Lots of creek after awhile.

Same evening they came back to camp. When they come back they got gold and George Carmack he weighed. They had small gold scales. He say five dollars gold. Fifty cents pan average.

When I see the gold first, just like I don't care because I no savvy. I never see gold before. Now I like to see gold all the time. Next day we go down to Forty Mile to record the claim. Forty Mile was mining camp before '98 and recorder office there. So we record claim.

WE COME back again. Go down one day, come back two days. When we get up to camp on Klondike we move the camp up the creek up to Bonanza so when we get up there we built ten feet sluice box. Cut with ax. We start work on first day September, work for three weeks. In three weeks we took out gold, \$1,450. At that time very cold, we can't stand cold no longer. We go down to Forty Mile for winter camp. We took gold in store, we tell people we took out this gold in three weeks, \$1,450.

That is the time the big rush start. No one stay home, everybody go up. The big rush start to come up the Yukon River two years steady, winter time, summer time, every day somebody come. After two years '98 big rush start, from out over Chilkoot Pass.

When big rush starts in '98 around here, there were 20,000 people around Bennett Lake and Tagish Lake. At same time they start railroad from Skagway. That time no bulldozer, all hand work, shovel work. When railroad come this country around here, everything come. Horses, policemen, everybody. Before railroad, grub pretty high. When railroad come, everything drop.

This country, big country yet. Way back, some gold there yet, but hard to get to. Ground too deep. Have to have machine. No machine, no gold. One sack of flour from forty to a hundred dollars.

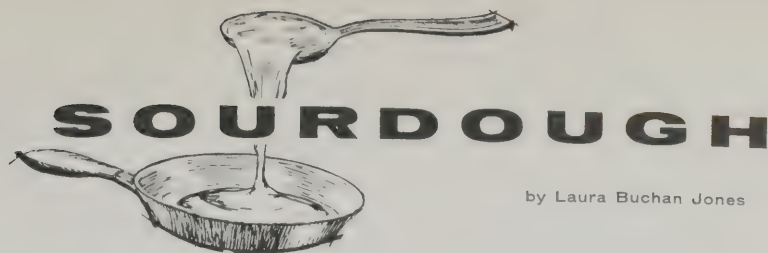
But Klondike was poor man's country, because the ground froze. No need machine, no pump. Sink hole, make fire, build fire, thaw out, dig out—winter time. Spring—wash it out. Can't do it around here.

Before white man came, no matches. Make fire this way: make hole part way through piece dry wood. Make other piece wood to fit hole. Wrap skin string around stick, ends tied to another stick. Draw back and forth. Make first stick turn fast in hole. Put dry pieces wood around hole. Turn stick fast with skin string. Make wood hot and catches fire. We quit that now. We got matches.

AND Patsy Henderson concludes his lecture with a Tagish Indian love song and dance," said Mrs. Martinsen. "When we met him he sang the love song to me, then asked with a twinkle in his eye, 'Is your husband jealous?'"

"Patsy Henderson, with his quick wit, intelligence and overwhelming charm, would surely have made his mark in the world had he been born under other circumstances!"

Mrs. Martinsen and her husband, Perry, went on a trip to Dawson during summer of 1951. They stopped off at the Tagish Indian Village to meet Patsy Henderson. The author's father, Edward B. Lung, went over Chilkoot Pass in 1897, her mother over White Pass in '99. Mrs. Martinsen was born in the Klondike during the Gold Rush.



by Laura Buchan Jones

THERE will be many changes on the Alaskan scene now that Alaska has become a state, but you can be sure that for many an old-timer, one thing will never change. The old sourdough pot will always hold its place of honor on the kitchen shelf.

The old-timers—sourdoughs, as they proudly call themselves—aren't going to turn to ready-mix pancake flour just because the political status of the greatest country on earth has changed. Breakfast will keep right on coming from the old sourdough pots cherished for half a century and more. Many newcomers—cheechakoes, as they are labeled until they have proved themselves—use sourdough today from choice rather than necessity.

Sourdough Old Stuff

The exact time and place at which sourdough originated are not known. It is a heritage of bygone cultures and faraway lands. It was used by the early pioneers of the western plains. In Alaska, it has descended from the gold rush days of 1898. Miners, trappers, explorers and other wanderers of the lonely Northland lived by their sourdough and guarded their starters to keep them fresh.

With only the barest essentials in the packs on their backs, they used sourdough in some form as the *piece de resistance* of every meal. Even now, in the remote areas of the new state, there are many Alaskans who receive their groceries for the year from cargo ships that arrive from Seattle once each summer, when the shipping lanes are free of ice. Sourdough serves them in lieu of yeast, which cannot be obtained locally and often becomes deactivated during the time consumed in shipment, or from salt spray when cargo is lightered ashore.

I was introduced to sourdough by an Alaskan field nurse. My husband and I came north twelve years ago as teachers in an Eskimo village on the Alaska Peninsula. Cheechakoes we certainly were! We arrived at our destination in the middle of February, expecting to buy our groceries at the local store as we needed them. The store proved to be operated only seasonally by a salmon cannery. Although it was long on overalls and shoe-pacs at that time of year, it was short on food of any kind and none was expected until the first cargo ship in June.

The basement of our schoolhouse revealed a generous stock of surplus foodstuffs which the federal government had shipped in during the war, to be stored for use if supply lines between Alaska and Seattle were cut off. Since the emergency had not arisen, and no authorization had been received for use of the food, it had remained in the basement for five years.

Authorization or no, our plight constituted an emergency. We took inventory. There were dozens of sacks of beans—white beans, red beans, large, small and middle-sized beans—sugar which we were able to use after smashing it up with an ax, and twenty cases of evaporated milk in swollen cans.

Our predecessors had left a few spices, condiments and odds and ends in the cupboard. But, all told, our winter grubstake looked as discouraging as it did monotonous.

Fortunately, a field nurse came to visit us shortly after our arrival. "What you need is a sourdough pot!" she declared, and showed us how to set a starter.

Necessity governed our menu of sourdough for breakfast, lunch and supper, from February to June. We have used it ever since from choice.

Sourdough is not sour dough. It is batter leavened with a homemade starter of yeast, flour and water. The old-timers who had no yeast to begin with mixed flour, sugar and water and set it aside to ferment.

The starter is set by adding flour and water to it the night before it is to be used. Half a cup of the starter is removed before other ingredients are added. This half cup of starter is the basis for future hot cakes, bread, waffles, muffins and delicious chocolate cake that remains moist to the last crumb.

Keeps Indefinitely

A sourdough starter will keep fresh for years if it is cared for properly. I have one that originated during the exciting gold rush era. Every time I use this legacy from the past, I visualize a lonely, bearded prospector crouched beside a campfire on the bank of a mountain stream, baking his sourdough hot cakes in preparation for a long day with his shovel and gold pan.

The starter should be stored in a cool place between bakings, and used at least once a week. Under refrigeration it will keep longer without replenishing.

It should not be stored in a metal container. Pioneers often used hollowed-out logs as their sourdough pots. Wide-mouthed fruit jars, bean pots, cookie jars, old-fashioned crocks, antique china pieces—all with lids—are in use today as sourdough pots.

Mine is a marmalade crock that I found in the tall grass around a deserted log cabin in an abandoned gold camp near Dawson. It once contained James Keiller and Sons' Dundee Marmalade, made in London, and according to the label on the crock, its original contents won the "only prize medal for Marmalade in 1862," as well as the "grand medal of merit of Vienna in 1873." So, my sourdough hot cakes are well seasoned with the historical past of two hemispheres.

One doesn't need to live in the forty-ninth state to enjoy sourdough, however, nor is it necessary to know an Alaskan to obtain a starter. An excellent commercial starter has been made available in response to the many requests from tourists who have sampled sourdough hot cakes in Alaskan homes. Discovering how light, thin, tender, moist and distinctively flavored these hot cakes are, they want a starter to take home to families and friends.

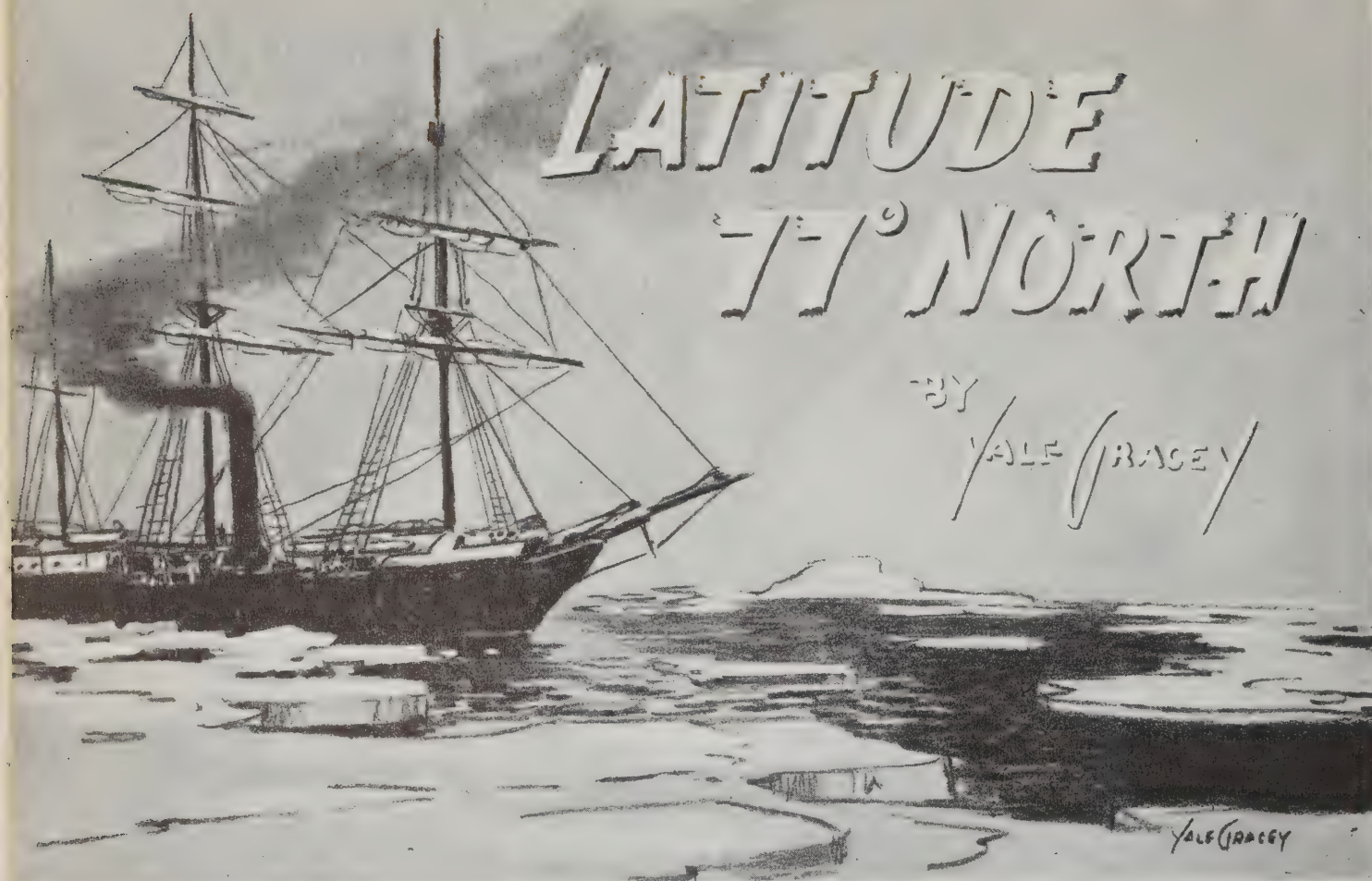
The commercial product is a dehydrated form of an original starter which dates back more than fifty years. It is activated merely by adding warm water to it.

Sourdough is both inexpensive and simple to use. The following recipe is recommended by the Agricultural Extension Service of the University of Alaska:

Sourdough Hot Cakes for Three

To set the starter the night before, put it in a large bowl, and mix in 2¼ cups of warm water and 2 cups of flour. Cover the bowl and set in a closed cupboard overnight. Next morning remove ½ cup of the batter, which becomes the starter for future bakings, and store in refrigerator or cool place.

To the remaining batter add: ½ teaspoon salt, 1 tablespoon sugar, 1 teaspoon soda, 2 eggs. Beat with a fork. Stir in 2 tablespoons of melted fat. Bake on a hot griddle. Brown on both sides. Preferred Alaskan toppings include blueberry syrup, rose-hip jam and spruce honey.



She was a stout bark-rigged steamer 142 feet in over-all length. As U. S. S. Pandora she had made two Arctic voyages under British command. Her last voyage was the first Arctic exploration ever attempted by way of Bering Strait.

THE key which unlocked to me the tragic story of a ship and the men who sailed on her was the finding of an article from the "Graphic," an illustrated London paper, dated July 3, 1875. The engraving was of a ship, and the article read in part:

"The screw-steamer yacht, the Pandora, Captain Allen Young, which has been fitted out at Southampton at his own risk and chiefly at his own expense, though aided by Lady Franklin, James Gordon Bennett and Lieutenant Lillingston for a private expedition to the far North, sailed from Plymouth on Monday evening."

These few words fired my imagination, and led me to track down the story of the most disastrous episode in the history of Polar exploration.

The Pandora on her first Arctic voyage had entered Peel Sound, reached Latitude 72 degrees North, and sighted Cape Bird, then Sir Allen Young had been obliged to return to England. The next year, in 1876, Young

had sailed the Pandora to the entrance of Smith Sound. Both these expeditions were in unsuccessful search for Sir John Franklin and his party who were lost somewhere in the Arctic north of Hudson Bay. Hence Lady Franklin's financial participation in the Pandora's ventures.

Now the American journalist, James Gordon Bennett, took over. Bennett, editor of the New York Herald, had sent Stanley into Africa in search of Dr. Livingston, and had found that search and rescue expeditions could accomplish circulation increases as nothing else could.

Bennett bought the Pandora after Captain Young's return to England in 1876, renamed her the Jeannette, presented her to the United States Navy and demanded that she be sent on a voyage of Arctic exploration.

Not without reluctance the Navy accepted, and an Act of Congress in March, 1878, designated that the Jeannette make a Polar expedition for the

United States under Navy command.

For this ill-fated vessel her old name was the more appropriate, for as the curious Pandora in opening her box had released all human ills upon the earth, the embarking of this craft for the Polar regions was to result in the ultimate loss of eight ships and most of their crews, among the world's most seasoned and courageous men of the sea.

On July 8, 1879, she sailed out of San Francisco Bay accompanied by a gay flotilla of small boats crowded with happy well-wishers. She carried thirty-three men and provisions and supplies for three years.

She was a stout bark-rigged steamer of 420 tons, 142 feet long, 25 feet of beam and 13-foot draft. She was captained by the brilliant young Navy officer, Commander George Washington DeLong, and second in command was Lieutenant J. W. Danenhower. Her engineer was George Wallace Melville and Captain William Dunbar, a down-

east whaleman, was along as ice pilot.

None of these men had been chosen at random. DeLong had commanded the *Juanita* several years earlier in the search for Captain C. F. Hall and his men on the Navy's *Polaris* Expedition in Baffin Bay. He had certain theories he hoped to prove about the Arctic, and encouraged Bennett to carry out the purchase of the *Jeanette* and helped apply the pressure on Congress to finance the voyage.

HE WOULD try to reach the Pole, and look for the Swedish Captain Nils Nordenskjöld and his party who were searching for a Northwest Passage. First and foremost, he hoped to prove that the Japanese current flowed northward through Bering Strait and into the Polar Sea, resulting in a basin of open water somewhere beyond the fringe of the ice pack.

This was to be the first full-fledged Arctic expedition by way of Bering Strait, though many a sturdy whaling ship sailed each season as far north as 72 degrees, and on exceptionally mild years a few had penetrated to 74 degrees. These doughty whaling skippers had frankly told DeLong he was pursuing a deadly will-o'-the-wisp, and that everything in their experiences refuted his hypotheses. They had never seen anything to indicate the existence of an ice-free Polar basin, though the idea was not new with DeLong, and more than one whaling skipper to venture along the fringe of the ice pack had been caught in its inexorable teeth, to be lost in the sea of unknown ice at the top of the world.

Nevertheless, Captain Dunbar had volunteered to join DeLong, knowing full well what hazards and hardships were certain and what their chances were of returning. Others of these same whaling skippers were to lose their lives in search of the *Jeanette* later.

Lieutenant Danenhower, young, confident, a veteran of previous Arctic voyages, was devoted to DeLong and his purpose. Engineer Melville, also a veteran of Arctic explorations, was older, perhaps wiser, certainly less confident than his superior officers in DeLong's theory and in their chances for survival, had volunteered primarily because of his admiration and genuine liking for the young commander.

The trip to Saint Michael, then still called by its Russian name, Michaelovsk, was uneventful, with most of the time being spent in making the *Jeanette* shipshape and stowing supplies in more convenient positions. She reached Saint Michael on August 12 and spent four days loading Arctic clothing, three sleds and forty work dogs. Here also they added two men to the crew. Alexey and Anegguin, Alaska natives, were engaged as hunters and dog-drivers upon the recom-



The *Jeanette* was overhauled at the Mare Island Navy Yard and loaded in San Francisco with supplies and equipment to last thirty-three men three years.

mendation of the factor of the Alaska Commercial Company's trading post.

Be it said here that Alexey and Anegguin more than fulfilled the factor's promises in loyalty and devotion, and without their knowledge of Arctic survival it is probable that none of the white men would have returned alive. Alexey, the younger of the two Eskimos, died with his commander. But

Anegguin was to see his home again.

The last stop was in Saint Lawrence Bay in Siberia, where final details were completed and last-minute mail was sent home. On August 27 the *Jeanette* headed for the Bering Straits and the unknown.

Sailing was smooth and the spirit of the group was high as each man looked forward to an adventure which

Christmas day—full of memories of loved ones, friends, gay times. The cook had done his best to bring the Christmas spirit to the ice-locked *Jeanette*.





Louis Johansen

Many who know the North well have been victims of its treachery. In Bristol Bay the bark *George Curtis*, above, was icebound for eleven days in May, 1918.

came to even fewer than now.

Five days later the whaling bark *Sea Breeze*, Captain Barnes, retreating southward for the season, sighted the *Jeannette* under full sail and steam and made an effort to hail her. The *Sea Breeze* had some Alaska Eskimos aboard who predicted an early closing of the ice pack, as in the disasters of 1871 and 1876 which had claimed in all thirty-six whaling vessels. Whalemen had laughed at the Eskimos' predictions those previous years, but now were more than willing to listen to advice from the weather-wise natives.

The *Jeannette* saw Captain Barnes' signals, but both ships were fighting heavy seas and after three hours a dense fog closed in. Several other vessels saw the *Jeannette's* smoke plume the next day, and that was the last report of her to reach the world for two and one-half years.

Ice floes were beginning to appear in the *Jeannette's* course, and by the next day they were thick around the ship. So thick, in fact, that although they sighted Herald Island twenty-five miles away they were not able to sail toward it. A sled party went ashore to see whether there was a likely spot to make winter quarters, but returned with the news that there was not. It didn't make much difference to the *Jeannette*, however, for by the time the party returned she was solidly held in a sea of ice. There was nothing to do but prepare for a winter in the ice pack.

One of the things with which the ship had been equipped was a new invention by one Thomas Edison—a generator which was supposed to light the ship during the long, dark months

ahead. But no matter how they tinkered with it, not a glimmer could they raise, and it was finally put away with disgust and the conviction that the electric light would never replace the oil lamp.

One day followed another, with the ice pack gradually drifting northwest and carrying the ship along with it. Then, on November 7, the ice a short distance from them split open into lanes of black water, only to close again with such force that blocks seven and a half feet thick were forced up on their floe, sliding along the surface of the ice like some great game of shuffleboard. The movement stopped as quickly as it had begun, and all was quiet, white and dismal.

On the night of November 11, Commander DeLong was wakened suddenly by a creaking of the ship. He dressed quickly and went out on deck. The sight he saw was enough to make him summon all hands and prepare to abandon ship at a moment's notice. The ice was breaking up near the *Jeannette* and masses fifteen and twenty feet high were grinding, shrieking and sliding along at various angles.

The ice wall moved across the floe toward them like a tidal wave of concrete blocks. The scream and shriek of tortured ice added a fitting accompaniment to the nightmarish scene. But the wall stopped just twenty feet from the ship, and the silence of a tomb settled once more over the frozen seascape.

On November 13 the ice moved away from the portside, leaving five hundred yards of open water. But the *Jeannette* was frozen fast to the starboard and could not move. Two days later the ice

moved in again, but stopped at the ship's side.

There was not much sleep for the next few nights as the ice continued to move. Then, on November 24, she broke adrift from the floe and was immediately caught up in a grinding mass of ice and carried through a mile-long sluiceway. The force of the ice against her hull was so great it made the decks tremble and threatened to split them wide open at any moment. But finally the pressure ceased, the ice closed in, and the *Jeannette* was once more a frozen ship in a frozen world.

THE days dragged on with nothing to break the monotony except an occasional fight among the dogs, and the weekly ration of rum. Or perhaps one of the Eskimos shot a seal or Polar bear, giving the crew a taste of fresh meat.

On Christmas day Commander DeLong wrote in his diary, "This is the dreariest day of my life, in the dreariest surroundings!" It was a day full of nostalgic memories of loved ones, friends and gay times. The cook did the best he could to bring the spirit of Christmas into that frozen land from which Saint Nick was supposed to come each year.

The men decided to put on a minstrel show for New Year's Eve, so during the next week they kept busy making costumes out of anything they could find, and dusting off old jokes and songs. The show was a great success, and the gods of the North must have been surprised at the amount of gaiety which came from that tiny speck of life caught there in the great ice trap.

On January 19, 1880, a leak was discovered in the bow of the ship. It was caused by the pressure of the ice, and could not be stopped because it was behind a thick wall of reinforcement which had been built there to protect the hull from damage while pushing through ice floes. This reinforcement could not be removed to get at the leak, because it was at the time holding back the great pressure from the outside.

There was nothing to do but pump continuously by hand until the steam pump could be moved forward, and using the steam pump would mean using precious coal.

On January 26 the sun returned. The long Arctic night had lasted since November 24 when they had seen the last sliver of the sinking sun traveling along the horizon. During these months all had not been cozy and warm aboard the *Jeannette*. Captain DeLong wrote, "The ship is wretchedly wet and uncomfortable. The berth deck is wet from the endless travel along it, the galley is wet from drippings of the auxiliary pump, the deck house is wet from the Baxter boiler and the quarter-deck is covered with ice and sludge from the fire-hose discharge. The out-

look is discouraging. My anxieties are beginning to crowd on me. A disabled and leaking ship, an uneasy and terrible ice pack with a constantly diminishing coal pile, and a distance of two hundred miles to the nearest Siberian settlement—these are enough to think of for a lifetime.”

DeLong and his men were to learn what real discouragement was as the days passed into weeks and the weeks into months, until summer had passed and they were forced to realize that the ice was not going to open. They were doomed to another winter in the grip of the ice pack.

Food had to be conserved. Many of the dogs died from eating tin cans, rags, rope and bones. Occasionally a bear wandered within Alexey's or Aneguin's range, and men and dogs would have a feast. During these months a windmill had been built on deck to work the pumps and conserve their small supply of coal. The ship was still leaking at the rate of two hundred gallons an hour from her old wound. The men had also built a large room of sheet metal around the forward mast in which the moisture from below decks would condense and freeze, keeping the living quarters reasonably dry.

NOVEMBER 10, and the sun left them, to return on February 5, 1881. Christmas and New Year's day passed with no attempt to repeat the gay times of the previous year.

During all this time the ice pack had been carrying them steadily in a north-westerly direction, and on May 16, 1881, they sighted land! It was a small island forward of their starboard beam, about forty miles away, Latitude 76 degrees 40 minutes North, Longitude 159 degrees 53 minutes East. This was the first land they had seen since March 24, 1880—fourteen months with nothing to look at but an unbroken horizon of ice!

Not until May 31 did the ice pack carry them close enough to the land, which turned out to be two islands between which the ship passed, for a party of six men to be sent across the ice to the nearest island about twelve miles away.

Five days later the party returned to report that the island was bare rock with a little moss and a few birds, dovekeys, apparently nesting there. They said the ice near the island was alive from the pressure of the pack moving through the passage between the two islands. They named their discoveries Jeannette and Henrietta.

As the days passed, the islands gradually disappeared. Then on June 6 the ice around them about a hundred yards away began to move. It broke into confused heaps of rolling, tumbling, grinding floe-bergs like those of November, 1879. Ridges thirty feet high formed as leads closed, and fog

moved over the ice from the patches of open black water.

The Jeannette, in the center of its ice floe, moved along grandly in a murky, howling wilderness. It would have been impossible to leave the ship and cross the yawning chasm through the fog. As before, this spasm in the ice quieted down, but there was a tension in the air, occasional splitting sounds in the darkness and creaking in the timbers of the ship.

Then on Friday, June 10, 1881 (really June 11 as they had crossed the international date line), the ice suddenly opened alongside. The ship righted herself on an even keel, and they were afloat. This was what they had been waiting for all those months. There was a cheer from the men and a frantic scramble to get everything cleared away for making sail. First they inspected the hull to see whether there was any damage. Even the leak had stopped now that the pressure was removed. Captain DeLong was elated. Once more he had a free ship under him and open water ahead. All that day and night they spent making happy preparation for their escape.

Morning came and they were ready, when to their horror they discovered that the wide channel was closing. The fourteen-foot-thick jaws of solid ice were coming slowly but surely together with the Jeannette between them.

They had seen the destruction to follow the closing of these lanes of open water, and here they were caught in its path! There was only one slim chance of escape, and that was to move some large floating pieces of ice to each end of the ship in the hope that they would act as a wedge, receiving the greater part of the thrust and possibly stopping the lane from closing completely. All depended upon how much force was backing up the re-

lentless movement of the ice.

After they had with considerable effort maneuvered their wedges into place, there was nothing to do but wait. At ten a. m. the wall of ice came up against the wedges. The men held their breaths as the edges of the ice began to crumble and the blocks shifted and groaned. Then all was quiet. Their barricade had held!

They were safe for the moment, but not for long. At four p. m. the ice moved down on them in a great surge of force. The wedges gave way and the ship was jammed against the ice on the starboard side, causing a heel of sixteen degrees to starboard. There was a snapping and cracking of the bunker sides, and the seams opened in the deck. Immediately DeLong ordered them to abandon ship. Boats, sleds and all possible supplies and equipment were taken over the starboard side to a safe distance on the ice.

The ice moved along the side of the ship toward the stern, lifting the port bow and burying the starboard quarter and stern, jamming them against the floe and preventing the ship from rising to the pressure. A great crack moved across the deck and water began pouring in. The Jeannette was being broken in two.

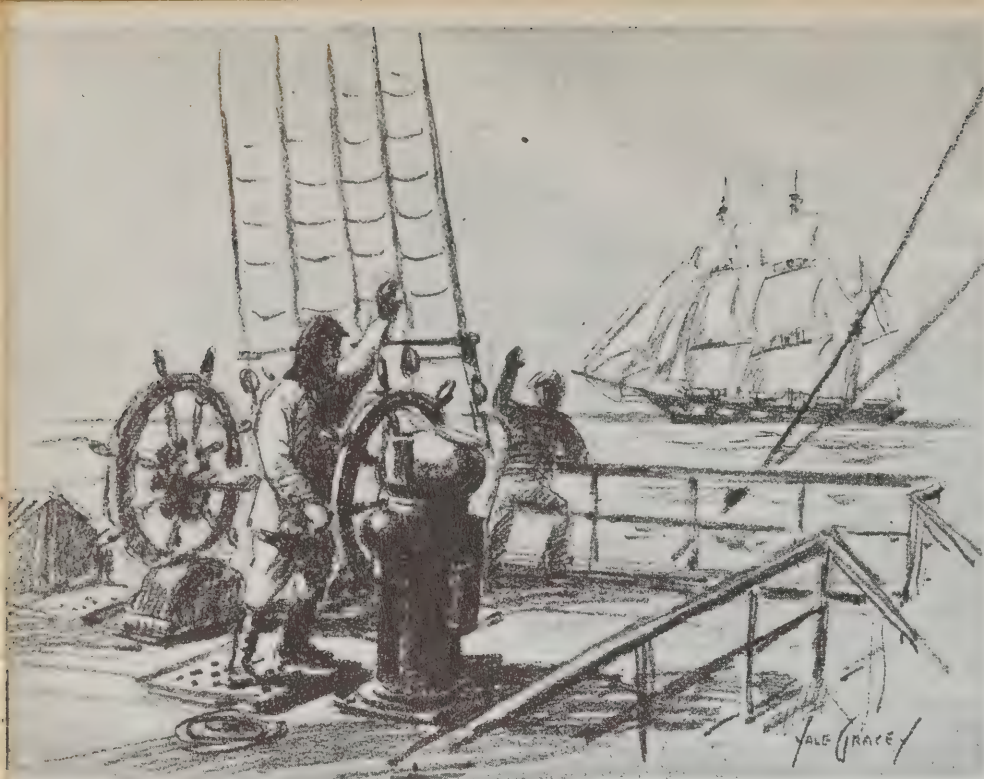
At four-thirty the pressure stopped and she was held fast, but half an hour later the ice moved in again with a great surge. The decks began to buckle and the ship heeled about thirty degrees to starboard, a torn, broken hulk.

At one a. m. June 12, all hands were awakened by the ice opening in the midst of camp. Everyone moved to a safer place. There was no more sleep that night as the tired, discouraged little band kept watch on the restless ice. At four a. m. they sadly watched the Jeannette go down into her cold, dark grave beneath the eternal ice.

Over huge, jagged pressure ridges, as in the photo below, the shipwrecked men dragged their loaded sleds, while the drift carried them ever farther north.

George W. Burgett





Seen by the whaling bark Sea Breeze, Captain Barnes, the Jeannette was under full sail and steam. Then a dense fog closed in and she disappeared forever.

They were about 250 miles from the nearest coast, Latitude 77 degrees 15 minutes North, Longitude 155 degrees East.

On Saturday, June 18, the little band loaded the supplies and the three boats onto sleds and started the long trek across the ice pack toward the New Siberian Islands. At least half the men

were ill with scurvy or dysentery, and Lieutenant Danenhower was blinded by an eye abscess.

The loaded sleds weighed about sixteen hundred pounds each, and could be moved only a few feet at a time. The runners were continually breaking, causing the entire party to wait while they were repaired. On Monday

For forty days they hauled the loaded sleds across the jagged ice floe. Each sled weighed sixteen hundred pounds, and could be moved only feet at a time.



they took a bearing and found they had moved a mile and a half from their starting point of Friday. They were already exhausted, and a cold rain added to their misery. While they were preparing the evening meal someone found a note in one of the food packages, put there by some well-wisher when it was packed two years before, back in civilization. It read, "This is to express my wishes for your furtherance and success in your great undertaking. Hoping when you peruse these lines you will be thinking of the comfortable homes you left behind you for the purpose of aiding science. If you can make it convenient, drop me a line. My address: G. J. K., 10 Box, New York City."

ON JUNE 25 DeLong again took a bearing, and found to his horror that they were twenty-eight miles farther north than when they had started. In a week of torturous travel toward the south, they had been carried twenty-eight miles north by the drift of the ice pack! DeLong didn't have the heart to tell his men.

The desperate little band struggled on over the ice pack, ferrying the sleds across open leads on cakes of ice, lifting them over pressure ridges and dragging them through knee-deep water and slush, for forty-one days. All but one of their dogs either died or disappeared and the supply of food was getting dangerously low.

On July 29 they came to a little island at 76 degrees, forty minutes North and 151 degrees, forty minutes East. There was nothing on it they could use for food, so after leaving a message and naming it Bennett Island, in honor of their sponsor, they took off once more across the endless ice.

August 30 brought them to open water and Faddejew Island, one of the New Siberian group. The only discovery here was a deserted hut, but at least it was the first sign of humanity and it did a lot to lift the morale of the men. From here they were able to use the boats, so the battered sleds and all unnecessary equipment were left behind.

They camped at night on ice floes and sailed during the day. On September 4 they landed on Kotelnoi Island where they found some more abandoned huts in which there were an elephant tusk, some wooden cups, forks and a Russian coin dated 1840.

DeLong's feet and hands were so badly frozen he could hardly walk, so they spent a few days resting on the island. On September 7 they set sail again and for three days fought their way through thick fog on heavy seas. The boats had to be pumped continually to keep them from sinking. Again they spent the nights huddled on ice floes, where they ate their meager meals and did what they could for frozen feet and hands.

On September 10 they reached

Semenovski Island, ninety-one days since their ship had been crushed. Ninety-one days of suffering and hardships such as few men have lived through. Luck was with them on this island. Anegguin shot a deer, and the men had the first filling meal they had eaten for months. They found no other game and no sign of human life, so after two days of rest they started again toward the Siberian coast and a settlement they hoped to find there.

A GALE was blowing and rough seas separated them from their goal, but they decided to attempt the crossing anyway. It couldn't be worse than what they had already been through. So on Monday, September 12, the three little boats pushed off from shore into the icy teeth of the wind.

They had not been under way long when it became evident the three boats could not stay together. The order was given to divide the party and carry on as best they could, trying to land at about the same spot on the Lena Delta. This was the last time they were to see one another alive.

DeLong's boat, containing fourteen men including the hunter, Alexey, struggled through the storm. Its sail was blown overboard and they rigged a makeshift sail from a canvas sled cover. Water poured over the sides, and it was all they could do to keep the little cutter afloat. DeLong's hands were useless. For five days they fought the sea, and on September 17, more dead than alive, they reached the Siberian coast.

Their boat ran aground about a mile and a half from shore, so all supplies had to be carried or floated through the icy water to the frozen beach. Snow, hail, sleet and wind raged about them, and they slept that night on the wet ground.

The next day they made what effort they could to locate the other boats, but found no sign of them. All unnecessary equipment, including log books and sleeping bags, were piled on the beach, and the little band started walking across the Lena Delta to find a settlement they believed was about ninety miles away.

THE going was painfully slow because most of the men had no feeling in their feet and legs. The mossy swamps they crossed had only thin sheets of ice over them, and they were continually breaking through into slush up to their waists. They made only four miles on the first day. They had food enough for four days, and the one last dog. When the dog was eaten, what then?

On September 21 they found two abandoned huts. Could this be the settlement they were looking for? If so, the next one was eighty-seven miles away. Their food was about gone, their feet and hands frozen. They could never make it! As if in answer to their prayers, two deer appeared and they

shot them. Once more they could eat a full meal.

It was decided to send the two strongest men ahead to try to bring back relief while the rest of the party regained strength for a few days. They stayed in the huts until September 24, when once again they began their painful struggle across the delta, lying down on logs at night to rest. There was no sleep because of the dampness and cold. Each step they traveled was a hell of torture. Great ulcers were forming on their feet and one man's toes were falling off.

Still they struggled on until two rivers coming together in a V made further progress impossible. There was only one day's food left. Their position looked hopeless.

Again they were saved from starvation by the shooting of a deer, and on October 1 ice strong enough to hold the weight of a man formed on the rivers. On they went, hoping that any moment the two who had forged ahead would appear with a relief party. Five more days—their food was gone and it was necessary to sacrifice the one remaining dog, a pitiful bundle of skin and bones. The meat was carefully rationed to each man, and they ate only a little at a time to make it last as long as possible.

October 6 brought their first death. Ereksen's feet had been completely frozen, and had to be removed. On this day he died. The others were too weak to dig a grave in the frozen ground, so after a few reverent words by DeLong they slipped Ereksen's body into the river through a hole in the ice.

One hundred and sixteen days after their ship had been lost, their supplies consisted of a few old tea leaves, two quarts of alcohol and a little glycerine. For two days they moved along with one ounce of alcohol in hot water for each meal. Then two more men were sent ahead in a vain hope that they could get through to some settlement. The next day brought them to the end of the alcohol, and still the will to live was strong enough to keep them moving. For three more days they existed on a spoonful of glycerine each. When that was gone they tried making tea from willow leaves, and finally resorted to eating two deerskin boots.

The following are the last entries in DeLong's diary:

October 17—Alexey dies. Mr. Collins' birthday—forty years old!

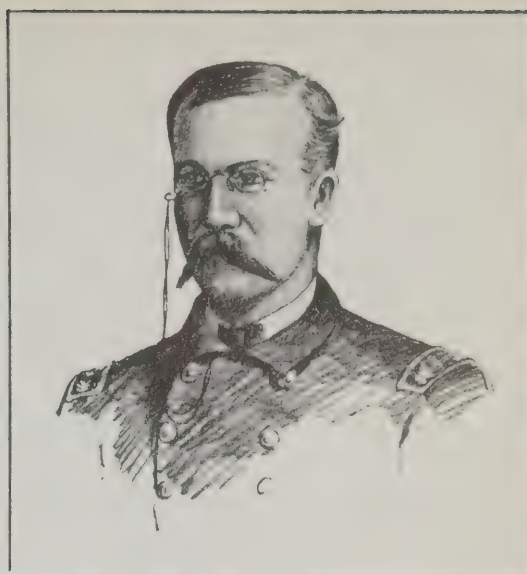
October 21—Kaack and Lee die.

October 28—138th day, Iverson died.

October 29—Dressler died.

October 30—Boyd and Gortz die. Mr. Collins dying.

Jerome J. Collins, one of Bennett's reporters, had been attached to the expedition as meteorologist.



Brilliant, courageous, determined, Commander George W. DeLong followed false theories to death on the Lena Delta. He was thirty-six years old.

These last words not only ended the diary, but the life of a great man. His sister published the diary and the ship's log and a few copies are yet to be found in the stacks of larger libraries.

And what of the other boats? One, with the courageous Captain Dunbar, was lost at sea and no trace of it was ever found. The third, under Engineer Melville, with the blind Danenhower and the Eskimo, Anegguin, was lucky enough to hit the mouth of one of the many rivers which empty across the Lena Delta, and they were able to sail upriver until they found a Tchukh settlement. They were more dead than alive, and Melville was unable to walk on his frozen feet.

It was impossible for them to send search parties out through the deep winter snows until the following March, when the indomitable Melville set out in search of his shipmates. On March 23, 1882, the searchers stumbled over a frozen hand sticking out of a snowdrift. It was DeLong's. Buried under another snowdrift nearby was the rest of his party.

Nor was it possible to send word of the Jeannette's crew to the world until the spring of 1882, for Yakutsk, the end of the telegraph line, was fifteen hundred miles away.

Other tragic stories lie in the fates of seven other ships lost while searching for the courageous but ill-advised Jeannette expedition, and who knows how many other tales of hardship and bravery lie forever buried with them under the restless, eternal ice 77 degrees North. ▲



The Skagway jail was full of persons arrested as Soapy's henchmen, and an angry crowd outside talked of lynching. The City Hall, above, also served as a jail. Skagway was an infant town in 1898, and the rough buildings were new. When, on July 26, 1897, the site was declared a port of entry it had but one small log cabin owned by Capt. Billy Moore.

THE REAL SOAPY SMITH BY C. L. ANDREWS

ON JULY 16, 1897, the S. S. Portland came into the harbor of Seattle, her decks scattered with lucky gold-seekers who had found the yellow metal. It was the first harvest from the Klondike. Next morning the Seattle Post-Intelligencer broke out the banner headline, "A TON OF GOLD."

The news spread round the world, and a gold-hungry mob turned toward the new El Dorado. The stampede soon assumed the proportions of one of the greatest frontier movements in American history.

Both men and women, near and far, caught the fever for sudden riches. From Russia to Australia they came, from Quebec to Los Angeles, intent on finding gold. Ship after ship, equipped and loaded with men and merchandise, sailed for St. Michael, Valdez, Dyea and Skagway, the coastal gateways to the gold fields. From San Francisco, from Portland, from Seattle and Vancouver, British Columbia, they sailed. Through Edmon- ton, now famous on the International



Highway, many marched on the over-land route to their goal.

Where carrion abounds the vultures flock. Where money is plentiful, there human birds of prey find their way. Along with the would-be miners and prospectors went the "sure thing men," the "three-shell game men," and gamblers of all sorts willing to take any chance to make a winning. And along with the honest seekers of gold were a horde of young fellows who thought they could beat the gambler at his own game—a fool's belief.

Among these strangers green to the ways of the Last Frontier came Jefferson Randolph Smith, who had for years preyed on the unsophisticated, the reckless youths, and others of the frontier communities in the West. His first visit to Alaska, during the late

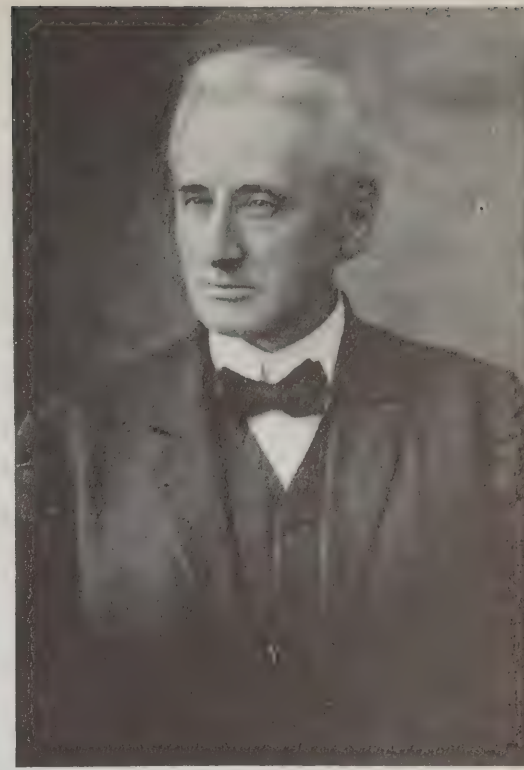
Soapy kept letters, clippings and pencil sketches of his confederates throughout the country. Shown at left is a page from his scrapbook.

fall of 1897, was a reconnoitering tour. He looked over Wrangell and Skagway and chose the latter as his field of action.

Smith rejoiced somewhat in the appellation, "Soapy," which he had earned through one of his favorite fleecing devices. On a slightly elevated platform he would stand wrapping packages of soap which he offered for sale at one dollar each. In one of them he would ostentatiously wrap a five-

Queen Charlotte Sound there was the usual long swell running in from the ocean at the west, and the ship was rolling.

Two men of careless and irresponsible disposition went to the top of the Captain's cabin. One of them grabbed the halyards that controlled the light, laid hold of the loosened line, and used it as a swing on which he was having a hilarious time swinging with the roll of the ship out over



U. S. Commissioner C. A. Sehlbrede, of Dyea and later of Skagway, conducted the hearings of Soapy's men.



In one month alone, February of 1899, five thousand persons landed in Skagway, most of them en route over White Pass to the gold fields of the Klondike.

dollar bill. A capper in the gathering would promptly bid, take the package, display its contents and wave the bill. While the crowd bought eagerly, Soapy would wrap similar packages, dexterously substituting previously prepared packages containing nothing but soap for those in which he placed five-dollar bills. When the crowd dwindled he would move to another stand and conduct a thriving business. When his stock of soap was gone he would share his take with the capper who encouraged sales.

Soapy was a skillful leader of men and always talked loudly of "Law and Order." On one of his northern voyages he figured in an incident that illustrates his methods. It was on the steamer City of Seattle. Hunter was captain and E. T. Pope was purser. The ship was loaded with adventurers setting out to become miners, and having heard of miners' meetings in mining regions, they were given to holding meetings on shipboard. At these meetings they sometimes even ventured to advise the master of the ship in regard to navigation.

The foremast of the City of Seattle came up through the Captain's cabin, just abaft the pilothouse. On this mast at considerable height above the steamer deck was the range light. In

the water from one side to the other. Somehow in his operations he loosened the ship's light, which weighed some ten pounds, and it came plum-

meting down to knock him out for good.

The body was brought down by order of the Captain and placed in the forward salon. The incident caused much commotion on board. The novice miners at once called a "miners' meeting" to decide what should be done, and appointed a committee to look up the victim's —

Reid's first bullet went through Soapy's heart and killed him instantly. The photo below shows Dr. F. B. Whiting bending over Soapy's body at the autopsy.



family and arrange a suit for fifty thousand dollars' damages against the shipping company.

Things were getting pretty hot when out of his stateroom stepped Soapy Smith. He looked at the body and recognized the man.

"Do any of you know this man?" he asked, turning to the crowd.

No one answered.

"Look in his pocket. He's got that medal of mine that I showed you yesterday. Look for it, Bill. All right, then, I'll look. I'm not afraid. He's been sleeping in my room. He has no ticket. Now, here in this pocket he has a sealed package with Jefferson R. Smith written on it. It isn't important. I knew he took it."

Soapy produced the medal and the package from the dead man's pockets, then turned to the crowd again.

"Now, you scum, if you want to stand up for a man who's a stowaway, a cheat and a bum, I'm off with you."

That stopped the miners' meeting. Soapy had turned the trick by his methods and ability to handle a crowd.

Jefferson Randolph Smith, alias Soapy, had organized a carefully considered program for relieving the northern-bound greenhorns of the little stakes with which they had hoped to reap their fortunes. His associates in this work were men he gathered to him from far and near. He opened business with headquarters next to Clancy's joint on Holly Street, later Sixth Avenue, between Broadway and State Streets in Skagway. He sent his three-shell men—some termed it the "T. B. Game," out on both the Skagway and Dyea trails. Foreman Kiehl of the Dyea and Klondike tramway said he saw four such games in one mile on the way to Dyea.

DR. F. B. WHITING, surgeon of the White Pass & Yukon Railway Company, said the operator chose a favorable spot, built a fire at which the foot traveler from Dawson could warm himself from the icy breeze that poured down White Pass, then tried to interest the traveler in his game of guessing under which shell the little black ball reposed. If he failed, he directed the traveler to Soapy's headquarters in Skagway where the victim was sure to be relieved of his gold dust.

Smith sent cappers down the steamer lines to board the northbound steamers and get acquainted with travelers. Finding a traveler who had money, the capper was to gain his confidence and on reaching Skagway steer him into one of the little black paper-covered cabins where Soapy's minions carried on an "Information Bureau." Here the traveler would be engaged in an informative conversation for a few minutes when a rough-house would start, the lights go out, and the victim find himself on the street in front of an empty cabin with his pockets cleaned.

But Soapy left the rough stuff to his strong-arm gang while he worked with calculated effort to build himself up as a popular favorite. He was a mild-mannered man, well built and attractive in appearance. According to Dr. Whiting he resembled a Southern planter. He was alive to the importance of newspaper praise, and knew how to secure it. The Seattle Post-Intelligencer reported that "About three-fourths of the stories about Soapy have been fiction." The special Skagway correspondent of the New York World wrote, "He is the most gracious, kind-hearted man I've ever met. To know him is to like him."

Smith's policy was to make friends with influential citizens. He even petted children—especially boys, for boys soon become men. When a printer's devil came to deliver a printing job for eighteen dollars, Smith gave the boy twenty dollars and said, "Keep the change." He took an interest in matters of public policy and championed the unfortunate.

The first disturbance that roused the ire of Skagway citizens against Soapy's gang seems to have been the killing of Night-watchman Howan and a stranger in February 1898, in a saloon at Jake Rice's Opera House block. The stranger, accusing the bartender of running a sure-thing game, went out and found Watchman Rowan. The two went back to the saloon, and as they came to the door the barkeep killed both men. Inquiry was made, but no one seemed to know who did the killing.

NEXT day a meeting for investigation was held with J. F. A. Strong, afterward Governor of Alaska, in the chair. The meetinghouse was filled to overflowing. Tom Ward, of Portland, stated that he knew the guilty man, but would not give the information unless he was promised protection. Thereupon J. M. Tanner informed the chair that he was in favor of anyone who refused to give information getting the opportunity of testing his staying powers on a stretch of hemp.

Strong appointed Tanner to find and arrest the murderer, and appointed nine men to assist. Tanner went with Ward, who pointed out a man named Fay as the killer. Tanner arrested and guarded Fay, who was tried before a committee of twelve citizens. There was much talk of lynching, but the citizens' committee decided to turn him over to the U. S. Marshal at Sitka, then the capital of Alaska.

"That was the first time I spoke to Soapy," Tanner said. "He came to the Burkhard Hotel where I was guarding Fay and asked if I needed assistance, saying he had had considerable experience and had some good men who would help. I thanked him and assured him that I thought we could keep the prisoner safely."

Soapy was very much in evidence that spring, organizing his men and

completing devices for handling the public. Then came the Spanish-American War, and Soapy organized the first Regiment of Alaska Militia, or some such title, ostensibly for the war. He wrote a letter to President McKinley offering the services of his organization, which were politely declined. Soapy promptly framed the President's reply and hung it on the wall of his resort as evidence of his importance and popularity.

SMITH, through his henchman, Clancy, is said to have brought pressure to bear on the newspapers. Two hundred dollars in gold were supposed to have been placed on the desk of one Skagway editor, the bearer leaving without a word. Afterward, when trouble arose, this editor is reported to have sent warnings to Smith about public meetings, and was later deported.

One of Smith's favorite methods of keeping his name before prominent persons, as well as of keeping in touch with his confederates over the United States, was by a wide correspondence. He scrupulously kept a file of such correspondence, and it included letters from public officials and politicians from Denver to Los Angeles, from London, Ontario, to Washington, D. C.

The letters, scrapbooks, diary and so forth came to light when a search was made of Smith's premises after his death, in order to recover stolen gold dust. J. M. Tanner had charge of them, and later, he states, they were secured from him by a news writer for the Alaska-Yukon Magazine, who published about half of them, then disappeared with the remainder.

A little light on the way Soapy's gang was gathered may be culled from the following letter, reprinted in the Alaska-Yukon Magazine in January, 1908:

Friend Jeff:

Not getting a letter to my last letter, thought I would write again, although heard from you through L. R. Kempers letter to Captain Jack Chaney, well old man am mighty glad you are getting along so nicely, and I hope this summer will crown you with all the money you will ever want.

Received a letter from Jack Henderson Yesterday. They have got a fine looking property and are ready for a good fat man, and Earnestly hope they will succeed. I received a letter from Daily (Old Bill), he is in Tacoma. You no doubt see him up your way. Jeff, with all his faults the old man loves the very ground you walk on. "Treat him kindly." Kid Collins left for Seattle last night. Thence to Skagway. There is none of the gang here now but I think Link Howard, and I think Davis, alias Poker Davis, will be in Alaska ere long. Billy Cardwell (Senator Whits clerk), says who are you writing to? Jeff, old boy? I said

yes. Well then, said he give him my kind regards for he is a good fellow. By the way Jeff, Frank Cole blowed the mineral and got not a quarter from same, and is on the hog train. He is trying hard for some one to stake him for Alaska, and owing to his being a good rustler you might have the pleasure of seeing him in the near future, and less not forgetting to mention Mr. Coy Kendall, who worked for me so long, and then went to work for Cole, is now on his way to Alaska, and will no doubt call on you, and Jeff, I wish to state he is a perfect and good man, honest as the day, and no better man lives, and kindly do what you can for him, use your influence in getting him something to do, tending bar or anything else for he is most worthy. Please give my regards to Kempter (Dutch) and to all the boys, and not forgetting yourself, I remain, Very truly yours,

—John J. Shay

It was not generally known how many were included in Smith's gang. Dr. Whiting and Keelar, the "Money King," later compiled a list of the roughnecks who were supposed to have belonged, and both those men were in a position to judge fairly well. There were 192 names on their list, all of them suggestive of the underworld and many of them unprintable. The sobriquets range from "Soapy" Smith and the "Lamb" to "Moon Face Kid," "Slim Jim," "Blackjack Doctor," "The Queen," "B. S. Jack," and a number on the farther side.

SMITH'S method was to depend on his satellites to do the coarse work and gather the plunder, which they turned over to him. He distributed the largess and attended to diplomatic settlements. He took care in his money-gathering efforts to avoid fleecing the men of the town, preferring to keep on friendly terms with them. They were safe, but if they played what Smith considered lawful games—roulette, poker, blackjack, betting on the little black ball under the walnut shells—and lost, that was their hard luck. But he preyed on the transients by any means that came to hand.

Soapy developed more high handed methods as he went along. He introduced new lines. His success was so great that he was conceded the title, "Uncrowned King of Skagway," in which he seemed to revel. From the records it does not seem, however, that Soapy was a killer. Probably he would not have killed Frank Reid had it not been that he was under the influence of liquor, and Reid was the only man in Skagway for whom he held fear. He expected to get through on a bluff, but in Reid he met the wrong man.

Frank H. Reid came to Skagway early in the days of the stampede. He was quiet-spoken, a good citizen who went about his business and said lit-

tle about it. From Illinois he had come to the Willamette Valley in the seventies, taught school in District No. 29, Linn County, Oregon, and taught writing school in adjoining districts the ensuing winter. I attended both schools. He was well liked by both pupils and patrons. His education, however, had been for the professions of surveying and engineering.

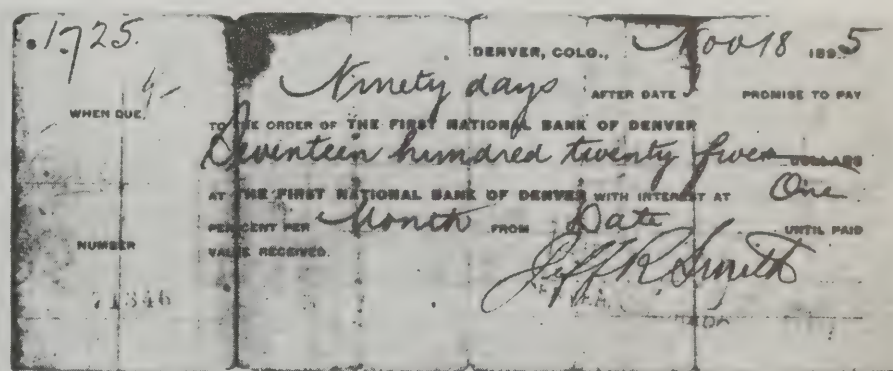
Reid was a lieutenant in Mart Brown's company of Oregon Volunteers in the Bannock-Piute War of 1878, in Eastern Oregon. His brother, D. V. S. Reid, was school superintendent of Linn County and later principal of the Athena, Oregon, high school.

In Skagway Reid saw that there was an opening and drove his stakes, as the miners say. He was selected

in the Territory, the stampedeers were at first a lawless mob.

The first murder of which there seems to be substantial record is that of a man named Bean, killed on the White Pass trail. He was shot from behind and one side, and at such close range that he was powder-burned. He was not robbed, and the reason for the killing is not known. Perhaps the killer was frightened away before he could rob the victim. It is not at all certain that Soapy's gang was responsible.

Then followed the killing of a colored woman of the underworld. Mattie Silks, a white woman of the same calling, was so frightened that she left on the next boat for Seattle and Denver, and after she got out of danger, she declared that "Soapy's gang"



Soapy knew how to ingratiate himself in the right circles. Found among his papers was the promissory note reproduced above which, having been accepted without endorsement, proves that his credit was good with the Denver bank.

for city engineer, and surveyed the townsite of Skagway. During the winter of 1897-'98 he was appointed as U. S. Deputy Mineral Surveyor for Skagway. He was prominent at the meetings for public order, and when a man was wanted for efficient, arduous duty, Reid was chosen.

Tales to the contrary notwithstanding, it is doubtful whether many murders were perpetrated in Skagway during Soapy's time. I came to Skagway about six months after his death. I knew the U. S. Marshal and the Commissioner who tried the cases in connection with Smith's gang. I knew most of the men who lived in Skagway, and for five years I listened to their conversations. I have searched the records and newspaper files, and have found little authentic proof of a relatively large number of killings considering the number of men who were passing through.

During the month of February, 1899, for example, more than five thousand persons landed at Skagway, most of them en route to the Interior. In addition to the crowds of stampedeers to the Klondike were the men working on the construction of the White Pass & Yukon Railway in 1898 and '99. Little provision having been made for maintaining law and order

had got the colored woman.

The citizens, believing that these killings were the work of the "strong-arm gang," were stirred to action. A Citizens' Meeting was called. The situation was debated. A poster was issued and placed, reading:

WARNING

A warning to the wise should be sufficient. All confidence men, bunco, and sure thing men, and all other objectionable characters are notified to leave Skagway and the White Pass Road immediately and to remain away. Failure to comply with this warning will be followed by prompt action.

(Signed) 101

Smith called a meeting of his gang, and is said to have drafted the following notice himself:

WARNING

The body of men styling themselves "101" are hereby notified that any overt act committed by them will promptly be met by the law abiding citizens of Skagway, and each member and his property will be held responsible for any unlawful act on their part, and the Law and Order Society, consisting of 317 citizens, will see that justice is dealt out to its full-

est extent, as no blackmailers or vigilantes will be tolerated.

(Signed) The Committee

The exact dates of these meetings and bulletins is not on record, but it was about March, 1898.

For awhile the operations of the gang were conducted more discretely, but as the feeling in town quieted Soapy grew bolder. On June 1 the Sitka Alaskan reported, "Co. A, National Guard, Alaska, drills every night." The show of military force evidently continued.

By the beginning of July, 1898, the "Uncrowned King" had reached the peak of his power. Skagway planned a celebration for the Fourth, for no good Alaska town ever let the Fourth of July pass without due and vigorous attention. Four divisions paraded to the music of bands, and there were soldiers from Camp Dyea marching in the procession. At the head of the Fourth Division rode Soapy Smith on a prancing dapple gray horse, and following him with other sections were Smith's Guards. Smith had attained the height of glory.

On July 7 a young miner, J. D. Stewart, arrived from Dawson carrying the proceeds of his labors in a buckskin poke—seventeen thousand dollars in clean, yellow dust. He deposited it overnight in Kaufman Brothers' safe. Next morning Soapy's men, having had notice of Stewart's arrival, had Old Tripp, a most genteel looking old gentleman who always dressed the part, on his trail ingratiating himself. Tripp persuaded Stewart, who was carrying his poke, to go over to Soapy's resort and see a captive eagle. There were some three-shell game men loafing around.

There are two stories of what occurred. The gang said that Stewart lost his poke on a three-shell game. Stewart said that a roughhouse started, he was tripped and thrown down. Someone grabbed his poke and ran.

Stewart went to Deputy Marshal Taylor, who had been appointed by Marshal Shoup of Sitka, and made a complaint. Taylor asked who got the gold, and Stewart was unable to say. Taylor paid no further attention to him.

Stewart then went to Dyea and laid his case before U. S. Commissioner C. A. Sehlbrede. Judge Sehlbrede came to Skagway, made some inquiries, and summoned Smith to meet him. Smith came. Sehlbrede advised him that if his men had the gold they would save themselves trouble by returning it to Stewart.

Smith's reply was that if any of his men had the gold and should give it up, he would cut their damned ears off, that the gold was won in a square game, and he would do nothing.

A meeting of citizens was called at Sperry's Warehouse. Soapy and his big right-hand man, Burns, came and Soapy tried to get in. Captain Sperry,

who had led the citizens' posse at the Willow Springs fight near Pendleton in the Piute war of 1878; Charles Singfelder, and Frank Reid were at the door to keep him out. Smith pushed Reid off the sidewalk, but was still prevented from entering. Smith's men had information of the meeting, however, some say from the correspondent of the New York World, and so many of them came that the meeting was broken up.

ANOTHER was called at Sylvester's Hall, which was so crowded that the meeting was adjourned to the Juneau Wharf at the foot of State Street. About nine in the evening the citizens reached the wharf, leaving J. M. Tanner, Frank H. Reid, and Murphy on guard at the entrance of the plank drive to the wharf warehouse.

Smith, at his saloon, heard of the meeting. He took his rifle, swallowed a glass of whisky to reinforce his courage, and went down to the dock saying he would drive the sons of bitches into the bay. Some of his men followed but he ordered them back.

Tanner, Reid and Murphy stood at the west side of the driveway against the railing about sixty feet from the end. Smith came along the roadway swinging his rifle, a .45 Winchester. With an oath he ordered Brownell and another man, probably Singfelder, off the wharf. They promptly jumped over the railing and down to the ground some six feet below, and went under the wharf for safety. Smith passed Tanner, who was unarmed. Reid halted him. He struck at Reid with his rifle saying, "You're the son of a bitch I want!"

Reid caught the muzzle of Smith's rifle with his left hand, pushed it aside, and drew his revolver with his right. The first cartridge missed fire. Smith gathered his strength, forced the rifle muzzle almost against Reid, and fired. Reid fired almost at the same instant. One witness said it looked as if the guns were spitting fire at the same time.

Both men dropped to the planking. Smith with a bullet through his heart. Reid had a rifle ball through his groin, but in falling he fired a second shot which struck Smith eight inches above the knee. Smith was already dead.

"Smith is killed," someone shouted. Soapy's followers stopped at the wharf entrance. Tanner says there were six or seven of them.

"They've got Soapy and they'll get you next," Tanner said to them, and they put up their guns and ran.

Tanner went to Reid and asked where his gun was.

"I'm badly hurt," Reid said, but he rolled off the gun. Tanner took it. Except for two empty shells and one unexploded cartridge it was empty. It was a .38 Smith & Wesson.

TANNER went up the street calling on the men to arm and meet him in front of Reid's house between Third and Fourth Streets, then got a Winchester rifle from old Captain Bill Moore with a characteristic injunction from the old frontiersman.

Some men started to carry Reid to his home, but finding how badly hurt he was they took him to the hospital. Soapy's body was turned over to Ed R. Peoples, the undertaker, and Commissioner Sehlbrede held an inquest later.

The gang scattered. Three, Bowers, Tripp and Slim Jim Foster—some say four—ran up the trail past the waterworks and hid in the woods. Every house and building suspected of being a hiding place was searched by sixty men under Tanner.

Judge Sehlbrede returned from Dyea and swore in Tanner as Special Marshal, and Taylor was disqualified from acting. Warrants were issued for leaders of the gang. Guards were posted at every wharf and on every trail out of town. The White Pass Railway company was notified to post guards along the pass. There was no escape.

The story is told that Bowers came to Tripp, asleep in the forest on their second day out, shook him, and said, "Wake up! They're coming to hang us."

"We should have been hung twenty years ago," was Tripp's reply. "I'm not going to stand it any longer. You're young and maybe can do it, but I can't. I'm going to get something to eat."

They had eaten nothing but berries and roots. Tripp came down to Rice's restaurant and W. J. Rogers came to get him.

"I've ordered a good dinner and I need it," Tripp said. "May I have it?"

Rogers said yes. A crowd had gathered, angry and threatening.

"They don't look good to me," Tripp said. "Will I be protected?"

Rogers said there were two more guards.

"Well, I'll chance it," Tripp said calmly.

Bowers and Slim also came down and surrendered themselves.

Twenty-six were arrested. The jail was filled and some were kept in a hall over Burkhard's store. A mob collected in front, clamoring to hang someone. Slim Jim was scared. He jumped from the back end of the building and tried to run along French Alley. He was caught, dragged out in front, and a rope put around his neck.

By this time soldiers under Captain Yeatman had come from Camp Dyea under summons of Judge Sehlbrede. Tanner, Captain Yeatman and Judge Sehlbrede took the rope off Slim Jim's neck and put him back upstairs.

The soldiers marched up Fifth Street, but next morning they were returned to Dyea on the statement of Judge Sehlbrede that the situation was under control.



quality

This is the time we try the ancient skill
Our fathers taught for ivory or bone:
The patient whirling of the teeth-held drill,
The careful cut with copper knife or stone,
The tribal pattern and the graceful line—
Yet simple forms are all we ever choose;
But always there must be a pure design
Of beauty in the native things we use.

J. C. F.



ANCIENT SKILLS

Stewart's gold poke was found in a trunk at Soapy's place. The gold was recovered with the exception of five hundred dollars, supposed to have been Soapy's cut. Four hundred of it was allegedly paid to Deputy Marshal Taylor for his silence, with the warning that if he didn't "stand in" he would "get the lead." Eighty-five dollars was on Smith's person. He had spent the other fifteen.

A CORONER'S jury was empaneled, consisting of F. Clark, A. Lau-meister, Godfrey Chealander, A. C. Cleveland, G. Niece, and W. O. Hume. A citizens' committee was empaneled to hold an examination under Judge Sehlabrede. H. E. Battin, Frank Burns,

Al Brackett, Remick, Captain Sperry, Dr. F. B. Whiting, E. O. Sylvester, W. Witten, J. M. Tanner and three others served. Beginning July 15 the committee met on the Fourth Dock.

Of the twenty-six persons arrested eleven were bound over to the Grand Jury at Sitka, and nine were sent out of town on the British steamer Tartar. One of the deported was the reporter for the New York World, and another was the editor of the Daily Alaskan. On reaching Seattle the editor remarked, "I was sent out of Skagway in a most arbitrary manner."

On the spot where Soapy died two women placed a cross formed of tin disks, such as those used for putting

on building paper, tacked down to the planking. Those tags were pried off and carried away, probably by curiosity-seeking tourists. Soapy's grave marker, a board inscribed "Jefferson R. Smith," was also sacrificed to the same people. An admirer has replaced the marker by a stone covered with wire netting for protection.

Frank Reid went to the operating table with the same quiet courage that had marked his life. "Do the best you can for me, Doctor," he said to Dr. Whiting. He died a few days later. On his tombstone, erected by the citizens of Skagway, is the inscription:

HE DIED FOR THE HONOR OF
SKAGWAY.

Those Stone Age Fellows



The stone-age inhabitants of the Kodiak-Afognak Island group were described by Shelikof, a noted authority, as being above average in height, with black hair and eyes, light brown complexion and brilliant white teeth. He said some were of gigantic size.

by V. J. Boucher

SOMEWHERE in a city museum there is an old, stone blubber-lamp contributed by "yours truly." It was found some years ago near the mouth of the lovely Letnik River on Afognak Island, some thirty miles from the town of Kodiak. After the first flurry of casual interest all hands paid no more attention, so I got it.

Briefly described, it is a half-round chunk of granite, weighing perhaps forty-five pounds and flat on top because of a natural cleavage. Into this flat surface, sometime, somewhere, somehow, some very skillful hand had cut a neat basin about the size and shape of a large horseshoe and about an inch deep. The work is strikingly neat and precise. The contrast between the basin and the crude half-boulder itself is a tribute to the unknown stone age fellow who made it. How? With a wet stick dipped in ruby sand, maybe, though frankly, that's a guess.

Presently we had a visit from a fishery biologist who was, at the time, a special employee of the Bureau of Fisheries. Willis H. Rich, Doctor of Science, was an ichthyologist of wide repute and was a faculty member at Stanford University. His amazingly versatile education served an interest which was well nigh all inclusive.

He took one look at the blubber lamp

and told me, a little anxiously I thought, that it belonged in a museum. Then he added that, if I were willing, he would be most happy to take the lamp to the proper people and attend to all details, even to giving my name as donor.

I was more than willing. I knew then that "Doc," as we called him, must be right. Though it was not until sometime later that I began to understand how right he was. The lamp was found close to the surface indicating that it had been, quite recently, in use. At the same time there is a considerable probability that it was made a very long time ago. Granite is durable, and the article was so well made as to be good as new. Furthermore, no less an authority than Ivan Petrof had made special reference to the "ancient" blubber lamps widely scattered over the Kodiak district.

Actually, as I came to realize, the stone age fellows of the Kodiak-Afognak Island group had a culture so well adapted to the existing conditions, that parts of that culture have persisted in common use almost to the present time.

The truth is that this island group was, until quite recently, the ancestral home and exclusive bailiwick of a people described as being at one time (and that not very long ago) the most important Eskimo tribe in Alaska. Eskimo

—despite the fact that this island country is far removed from the Arctic; its latitude is that of Scotland. Its climate, though rigorous at times, is so distinctly temperate that, about once in twenty years, the larger lakes fail to freeze completely over.

And what sort of Eskimo? Shelikof has described them as being above average in height, with black hair and eyes, light brown complexion and brilliant white teeth. Not dentures, *teeth*. He states that some of them were of gigantic size. Lieutenant Davidof, who spent two years among them about the year eighteen hundred, states that he met a chief of these people in Igak Bay, who stood six feet nine. I may add that recent and expert examination of certain old village sites up there has disclosed positive evidence that such men existed.

In the course of the half dozen generations or so since the Russians came, notable changes, ethnic and otherwise, have been brought about, as one might expect. Nevertheless I believe I have seen a sample of the original island stock. I shall never forget. Rounding a bend in the trail on my way to Afognak village, I came quite suddenly upon him standing, straight as a lance under the fine old spruces at the edge of Aleut Town. A man in early middle age, with

black hair, light-brown complexion and black eyes, he stood well over six feet tall. Splendidly proportioned and evenly developed, he moved with the easy grace of a trained athlete. He seemed shy, but when I spoke he smiled with a flash of white teeth and returned my greeting with quiet courtesy. A visitor evidently; perhaps from the Old Harbor settlement. I never learned who he was and I never saw him again but he is one I shall remember as part and parcel of that island country.

Among those with whom I was associated during my years in the Kodiak-Afognak group, was one N. J. Anderson. The "N" stood for Nickolai, a name conferred upon a surprising proportion of those male infants whose people have been adherents of the Greek Orthodox church. A native of the islands, he claimed Afognak village as his birth place, and from there he had traveled widely about the group and even as far away as San Francisco.

From casual association I liked and respected him. But it was not until I made a winter boat trip in his company, along the south shore of the Shelikof Strait, that I really appreciated his merits.

We made that trip on order of the field superintendent in Seattle. Our local chief received the order with what was, it seemed to me, something less than wild rejoicing. If so, perhaps he had his reasons. The Shelikof has, at any season, a somewhat sinister reputation, and this was November. We had no weather forecast then and, moreover, the only boat available was underpowered. Three of us were willing enough to go, however, and we went. But the chief didn't want us to go alone. He asked Anderson (we called him Nick) to go along as pilot—just in case. Nick agreed to go.

I Learn Some History

We left Afognak village early one afternoon on a November day, with perfect weather conditions. They stayed that way till midnight. After that for a week and a half, the Shelikof threw everything there was at us, the ring posts included. We'd crawl out of shelter in the wake of one "sea-dusty buster" only to be chased into shelter again by the last one's big brother. Even Nick was surprised.

The second day out, we discovered we weren't safe even in the best shelter available, without recourse to what might be called a "Scotchman's bet." We would carry the anchor ashore, dig it down and pile a cairn of hefty stones atop it. Next we'd take the spare hawser ashore too and secure it around a convenient boulder. The method had its points. I recommend it for those who like to sleep nights along the shore of the shifty Shelikof.

Such conditions necessarily resulted in a great amount of enforced leisure which, under some conditions, might have been extremely trying. But not this time. Actually we all enjoyed it, and I shall always remember that trip as notably outstanding. The group got



Skeletal remains of a Stone-age man, above, were found on Kodiak Island. At one time, not very long ago, these people were the most important Eskimo tribe in Alaska.

on well together. The boat was roomy, and we had plenty of supplies. We had reading material too, and a pinochle deck, and had recourse to these. But the discussions we had were better than both together. They weren't "gab fests." The talk was good talk, and Nick contributed extensively and instructively to it.

As far as appearance and use of English went, there was nothing about our pilot which would have served to differentiate him from any of a million other U.S. citizens; though, actually, differences did exist. For one thing, he was fluent in three languages, Russian and the difficult Aleut tongue, as well

as English. Also he was much interested in and decidedly informed about the old-time stone age fellows of the district, who had no doubt contributed in some degree to his racial composition.

When he spoke of them he did so with respect. They were, he said, energetic, resourceful people; and daring as well. Sensing our interest, he talked freely. From him I learned for the first time much of what is written here, and it is a matter of great satisfaction to me that years later, when I had opportunity to consult such authorities as Shelikof, Davidof, Holenberg, Ivan Petrof, and (indirectly) Dr. Ales Hrdlicka,

The awls, punches, drills, arrow chipper, sinew twisters, chisels, knives, wedges and hammers shown below are tools similar to those used by the Stone-age Eskimos.





The native of Nootka Sound, above, is a good example of the Stone-age type. They were a handsome and resourceful people.

everything he told us checked. No discrepancy appeared anywhere. Nickolai J. Anderson handed us the "straight dope."

These island Eskimos called themselves Koniag (also spelled Kaniag) and were known to neighboring tribes as Kikhtagmute—literally, the people of the great island. "Mute" in that part of the world signifies "people." Kikhtag means the "great island." Our proper noun "Kodiak" is a corruption of the Russian "Kadiak" which Petrof says is evidently a corruption of Kikhtag. These were the people whom the Muskovite traders, for some incomprehensi-

ble reason, called Kadiak Aleuts.

The culture of these Eskimo tribesmen was as remarkable as the people themselves. Theirs was a stone age culture; yet, when the Russians came, they already knew what iron was. Moreover, they had some and were using it to some extent. Questioned as to where they got it, they said that it was occasionally cast up by the waves. Of that, more presently.

These people were Eskimos who kept numerous dogs but never used them for draft purposes because they had no sleds, nor, indeed, any sort of land vehicle. They were a people of the waterways. They were—and I don't expect you to believe the statement at once—an Eskimo people who were accustomed to going barefoot the year around. Yet there is no doubt about it. Until the Russians introduced the deer skin, or seal Tarbossa, from Siberia they made no use even of grass sandals.

In addition to their routine hunting, fishing and gathering activities, they regularly engaged in whaling and in trading with peoples as far away as Bristol Bay on the one hand and Prince William Sound on the other. By these means they obtained such items as the "great island" did not produce—especially walrus ivory and such furs and skins as beaver, lynx, marten, moose and marmot.

They also traded for caribou hides presumably because they found it inconvenient to hunt these animals themselves. They must have had them. Here and there one may still find an old timer who remembers when there were caribou on Kodiak Island.

In exchange for these goods the Kikhtagmute gave, among other items, fossil amber which is at times, especially after earthquakes, cast up in quantity on the south shores of Kodiak Island and on the shores of Chirikof. Their statement regarding their source

of iron may well have been true. At times, during my residence in the islands, I saw bamboos of considerable length and six-inch diameter which had been stranded on the shores there.

This suggests, I should say, that along the centuries a derelict Oriental ship, on occasion, reached these island shores and was ground to pieces there by the waves, leaving its iron fastenings deposited in the sand. Every beach comber knows that the material of beaches shifts from time to time, occasionally revealing materials long concealed. Hence the iron which the Koniags said was "cast up by the waves." That's a possible explanation, anyway.

Their ability to go without foot gear was, I should say, partly due to the marvelous adaptability of the human organism; partly to the temperate climate of the islands—warm intervals alternate with cold spells all winter there—and partly to their way of life.

A Hardy Race

Unlike many stone age gatherers, they made some preparation for winter by laying in considerable stores of dried fish. With these reserves they could stay "holed up" during severe weather. When traveling in winter they sat on their feet in the slim, decked-over canoes they used and thus protected these members. Nick told us of seeing Afognak villagers, perhaps thirty years before, walk barefoot through the snow from the water's edge to their dwellings, carrying their light bidarkas. He said that they didn't seem to mind it. The vigorous circulation, as evidenced by the red color of the feet, probably made them insensible.

The culture of these islanders rested on four basic inventions, which, with auxiliary ones, gave them the necessary controls which their environment demanded. The skin-covered boats gave them transportation and access to an immense amount of coast; and inland waterways as well. The earth lodge (barabara) provided protection and shelter in any weather. The blubber lamp, when properly tended, was an efficient producer of heat as well as light, and lastly, the spear thrower was, in skillful hands, an extremely efficient device for securing foods and clothing.

This ultra simple gadget is considered by archeologists to be one of the most ancient of human inventions, antedating, perhaps by thousands of years, the invention of the bow. It is the same device as the atlatl of the Aztecs and has been widely used for a very long time indeed. Probably extended practice in its use often produced a surprisingly high degree of efficiency. Certainly the Kikhtagmute preferred it for much of their hunting even though they had efficient bows and, in time, guns as well.

Actually the device is nothing more than a flat stick about eighteen inches long and an inch and a half wide shaped at one end to receive the after end of a spear or dart. It has the effect of increasing the power exerted by the thrower's arm and, under many condi-

The author, V. J. Boucher, is shown below, working in the garden of his farm on Gravina Island, near Ketchikan. He spends spare time researching for historic articles.



tions, it has been extremely useful. With this, and a couple of darts, the islander wishing to travel light could always secure a meal by throwing a fish dart into a stream or propelling a pronged bird dart at wild fowl. It was much used in hunting seals and sea lions, and, I'm inclined to believe, was the chief reliance of the Koniag whaler.

Nick told us that some among the old timers had a considerable knowledge of plant substances; they were herbalists of a sort and used this knowledge in various ways. They had some idea of medicine and could perform simple surgery. For these statements I find interesting support. Shelikof observed that, when guests were entertained, the host always tasted first of each dish offered. From this he concluded that they knew something about poisons. I've no doubt that they did.

Stone Age Scientists

The plant life of the islands is tremendously rich because the flora of the Arctic and Siberia meet and mingle there with the flora of the American West Coast. Undoubtedly some of these plants contain poisonous substances. Even so able a naturalist as the late Dr. Tarlton H. Bean, of the Smithsonian Institution, had a highly distressing experience some time ago with a plant which he and his exploring party supposed to be wild celery growing in the upper Karluk River valley.

Nor is this an isolated instance. Petrof supports Nick's statement as regards simple medicine and surgery. Shelikof states that he found no evidence of epidemic disease among the islanders. They were, he said, "Of a healthful habit and live a hundred years." Still there was no doubt a certain need for these stone age physicians and surgeons and, quite probably, they were respected in consequence.

Certainly the weather forecasters were. Their profession originated in the vital need for advance weather information when long trading trips were undertaken, because these involved extended travel in the dangerous open waters. In response to this need the stone age fellows had evolved a select professional group so efficient that they were heavily relied upon and greatly trusted and respected. Members of this weather bureau (so to speak) began their training as youngsters and literally "grew up in the business."

Because they lacked instruments entirely, their efficiency depended altogether of course, on skilled observation. The high achievement of this professional group among a stone age Eskimo people calls attention to the remarkable potential both physical and mental, which is the common heritage of mankind and which any of us could develop with profit.

Among the Koniag people whaling ranked with trading and probably was, in some ways, even more important to them. Their whalers were a select group, highly respected. The reason for this high esteem is not entirely clear to

me, but I'll set down such facts as I know.

Whaling was conducted in good summer weather only, I gather, and the animals attacked were juveniles; the full-grown whales being regarded as tough customers. These two circumstances, together with the short range at which the spear was thrown, make the respect accorded the whalers seem difficult to understand. Granted smooth water and a nice summer day, anybody, one would think, should be able to hit a whale, of all things, at the customary range of twenty to thirty feet. The Koniags were big men, however, and the whalers quite possibly bigger than average.

The boat used for whaling was the small, slim, light, tippy, two-hatch bidarka. The whaler sat forward, the paddler aft. From this exceedingly unstable "launching platform" the missile had to be thrown with enough force and precision to do the work; after which the boat had to be kept from capsizing, if possible, no matter how violent the stricken whale became. A pretty big order, probably.

The whaling technique of these people was as remarkable as certain other aspects of their culture. The average whaler the world over has had recourse both to harpoons and lances; and some, like the Arctic Eskimo and the Indians of Cape Flattery, employed inflated skin floats as well.

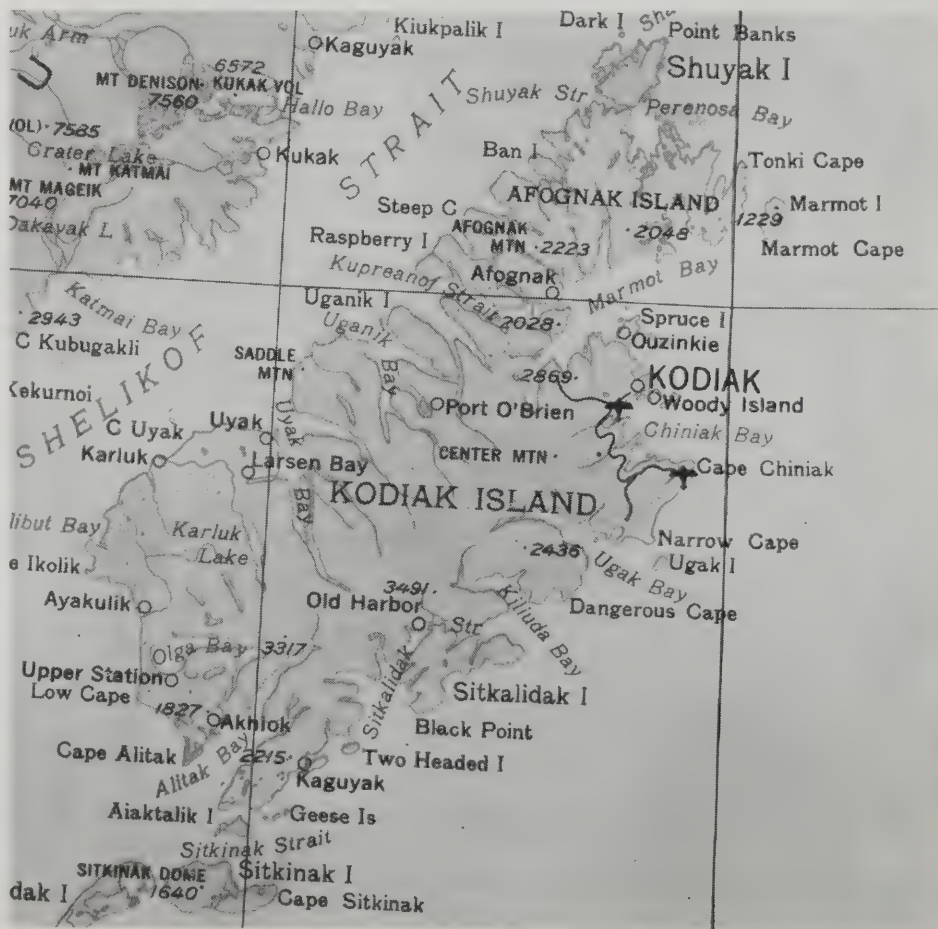
The sole implement they employed



The Stone-age Eskimo, above, had an advanced culture, but wore no footgear.

was a sort of dart. Petrof states that it was only six feet long—a fact which

The Kodiak-Afognak Island group, below, was the bailiwick of the Stone-age Eskimos.



suggests that it may well have been hurled with a spear thrower. This singular implement was equipped with a broad, carefully sharpened point of slate rock. It was the special work of the whaler who used it, and it was designed like the blade of a certain type of Malay Kriss, to break from the haft, or shaft, and remain in the body struck. No harpoon line or any sort of attachment was used. The theory behind its use, Nick said, was that the slate blade, once in the whale, would be driven continually deeper by the contortions of the stricken animal and that fatal results would follow. Petrof says the same thing.

Now I am sufficiently realistic to understand that the idea of a barefooted Eskimo killing a whale with a piece of slate on the end of a six foot stick might, perhaps, arouse a certain skepticism here and there. Still, archeologists assure us that the old time stone age fellows, the Folsom men of ten thousand years ago, for instance, not only killed the huge woolly mammoth and the giant bison with little stone-tipped javelins, but made a business of hunting these creatures and lived by that line of endeavor.

Preparations Were Elaborate

Their beautifully made "Folsom points" have been found over an immense area from the Bering Sea to Florida, and they have, in most instances, been found associated with mammoth and bison bones. All of which appears the more remarkable in view of the extreme probability that these old timers lacked the bow. The other probability seems to be that they used the spear thrower; with which, I suspect, they may well have been far more capable than one might suppose.

In the Norway of bygone days, a successful whale fishery was carried on in certain of the fjords by shooting the whales with iron arrows. The method got results; provided that the arrows used had been previously employed for the same purpose. What do you think? Septic action of some sort? I shouldn't wonder.

Now as regards the Koniag fellows, their whaling preparations were elaborate, and involved a lot of magic "hocus pocus" which included rubbing the spear points with certain organic substances for which I won't bother to describe you, but which certainly must have made the stone points highly septic. Maybe the Folsom men did something of the sort. Or maybe the game they hunted, if struck, for instance, in the paunch, would die in a few days anyway.

Having struck a whale the Koniags would wait three days and then keep close watch for their quarry. In the meantime their people, for miles about, had been alerted. With the best of luck the whale would soon be found floating close to shore, somewhere near where it had been struck. But it is a curious fact that a dead whale will often tack

to windward, so that an on-shore wind could be, in this case, unfavorable. Also the ocean currents are very strong at times, so it frequently happened that a considerable interval elapsed between the killing of a whale and the recovering of the carcass. Petrof states that, on various occasions, whales killed at Kodiak Island were recovered by the people at Unalaska.

Their Poison Testers

Now the stone age fellows of the islands weren't always too particular as to the freshness of the meat they ate. If a long period of time elapsed between the striking of a whale and the recovery of the carcass, that was all right with them. The researches of Harden F. Taylor have demonstrated that high protein substances, such as meat and fish, can be safely eaten either when perfectly fresh, or when very, very stale; not to say rotten. Between these extremes, however, there is a stage when the articles in question can be anything from dangerous to deadly because of ptomaine poisons. Quite evidently the Koniags knew this, for like the kings of old, they had recourse to a taster; a bird, in this case.

As you might expect, the dead whale attracted a cloud of sea birds, and among them was a particular sort which, apparently, was especially susceptible to ptomaine in much the same way that a kitten is especially susceptible to the poison sometimes contained by sea mussels. Accordingly, in any suspicious case, this kind of bird was of very special interest. If it was observed among the others, all was judged to be well. If it wasn't, its absence was a warning. The whalers knew what had happened to their "taster" and why.

If all were well, intense activity followed. The carcass was towed in and beached, and all hands got busy. Holenberg records seeing a whale butchered at Afognak Island and states that, in two hours, nothing was left on the beach except the stripped bones. Aside from meat and blubber the immense sinews of the whale were of particular value to the stone age fellows. When these were dried and pounded they separated into rod-like portions which could be divided almost indefinitely, finally into a sinew thread, one of the best known. Nick had a waterproof shirt (Kamleika) made of prepared intestinal membrane—bear probably—and sewn with sinew thread. It was a remarkable garment; probably an heirloom. The material was thin as paper, almost transparent, very tough and strong, and thoroughly waterproof.

The Koniag women were marvelous seamstresses. Making a Kamleika involved sewing numerous strips of membrane into the desired form and then giving it a test for waterproofness. They tied the garment at neck and wrist, then poured in water. Every needle stitch in the garment had to defy both the water and the pressure if the work was to be considered worthy of their skill. In view of the extreme thinness

of the material and considering that, in stone age times, the sewing was done with needles made from the bones of very small birds—well, my hat is off to those women.

Nor was waterproofness the only excellence of Nick's shirt. It was splendidly tailored and tastefully ornamented with colored worsted. Plainly it was a museum piece, and I felt surprised that he wore it as much as he did, but I never asked him about it. Chances are that the article was much more durable than its thinness seemed to suggest.

The skin-covered canoes (kaiaks or bidarkas) of the Koniag people were outstanding for design and workmanship, and much of the credit for their excellence was due to the women who sewed the covers. Among these people women were often greatly respected. In general, their lot was far from intolerable. It is true that they were occasionally excluded from the council house. It is also true that for superstitious reasons, the girl child on the threshold of womanhood was treated with extreme severity; for a year the poor youngster was regarded as an outcast, almost a leper. Afterwards, however, she was treated with a certain indulgence, as I shall explain.

Clothing Was Beautiful

For protection against rain and spray the Koniags relied on the kamleika. For general outdoor wear they used parkas made from a wide variety of furs some of which could be had locally and some of which were secured by trading. Bird skins of various sorts were also made into parkas, and the most remarkable and valuable was a kind worn by young women only. It was made entirely of the neck skins of cormorants; as many as two hundred being required for a single garment. Such a creation must have been, by any standard, beautiful. The plumage of the cormorant is as iridescent as that of a peacock, and the garments were given additional and special decorations with caribou hair, strips of sea otter and ermine fur, and sometimes eagle feathers.

Koniag women were greatly skilled in handicraft, especially in all kinds of needlework. The artistic sense was very strong as evidenced by their tasteful decoration of garments and their outstanding excellence, Petrof says, in all kinds of embroidery. They also made hats and baskets of spruce roots. They had a part, moreover, in the winter festivals which played so large a role in the lives of these people. In summer the community occupied itself with food gathering of various kinds and with the fishing and the chase. Winter was spent in continual celebration, provided the provisions held out.

Each village had its community center called the Kashima. It was a structure far larger than any of the dwellings, somewhat resembling a "temple of irregular and barbarous architecture," according to Shelikof. It seems that some of these were as much as

sixty feet in diameter. This was the community center, the council house, and the place where all important festivals were held. In general, these consisted of feasting, singing and descriptive pantomime. Lieutenant Davidof states that the tunes were very simple but that the people sang "with good voices."

I well believe that statement. I have heard their descendants sing. The pantomime was supported by song and the use of drums and rattles. Koniag men were excellent carvers, and masks carved and painted by them were further supports of the performers who, by pantomime, told this story. The one witnessed by Davidof was evidently the descriptive account of a long journey by canoe.

Davidof left long before the festivities were over. Crowded with humanity and with blubber lamps burning, the kashima was terrifically hot, and with the drums and rattles and small boys blowing whistles the noise was deafening.

These folk loved celebrations. Shelikof describes them as a happy people with a great fondness for games and frolics.

The ambition of every Koniag boy was to possess a bidarka. When he was able to secure materials, construct a frame and compensate the women for sewing the covering in place, he had "arrived." Thereafter, he was independent and on his own. Able to secure food almost anywhere, they roamed about, sometimes, no doubt, for thousands of miles before selecting a more or less permanent headquarters. The Koniag bidarka ranked with the best, and all were works of art; in so much that a Captain Collins, writing at a later time, states that "in no type of craft do men take such desperate chances" as were regularly taken by the sea otter hunters.

A waterproof apron attached to the manhole rim was drawn up and secured under the arms, thus making man and boat a waterproof unit. Captain Collins refers to the use of these craft "in the roughest kind of water" and Nick told us that the bidarka rider was able to dive through the crest of a breaking wave and emerge safely on its back even though, in the process, he submerged to his armpits. During this maneuver the paddle was held high over the head. Sometimes, he said, celebrants would throw a man-boat unit off a low cliff into the raging surf, certain that the boatman's skill would suffice to overcome all hazards. I don't doubt the statement, but frankly, that's not my idea of a good time. I'm a dory man.

Mr. T. Chernof Sr., of Kodiak, who knows that island country well, once told me of crossing Alitak Bay in a dense fog with three companions, in a three-hatch bidarka. He said that as he walked down to the beach with the paddlers, a half-grown youngster came along too. When the bidarka was launched, and at the last minute, the little girl crawled through the after hatch and disappeared. Alitak Bay is

big; the lower part is pretty open; there are currents and the fog was thick. Nevertheless, Chernof said, his paddlers crossed the bay and brought the canoe ashore only a short distance from the place intended. He said that he didn't know how they did it.

When the bidarka was beached, and Chernof climbed out, the youngster climbed out after him. She didn't have room to turn around and crawl out the hatch by which she had entered. Sometimes, I understand, several passengers were carried in this fashion. For long journeys, however, recourse was had to the big, open dory-like bidar (oomiak) which, as constructed by the Koniags, could readily carry forty people.

The young fellow cruising far and wide in his first bidarka was, necessarily, very much on his own: that country is dangerous, and it is quite possible that some of the young adventurers never came back. And yet, withal, what a splendid training in independence and self reliance. What an excellent opportunity to make a mental map of the district and retain it indefinitely. What a perfect chance to test the methods of the old timers; to improve on them if he could; to acquire the finishing touches of that specialized physical development and co-ordination which were so all-important to his way of life!

A Country of Moods

He could be the trencherman par excellence, and then some. Petrof records that the six men who accompanied him on one of his trips ate two fifty-pound halibuts in six hours. I don't doubt it. People are wonderfully adaptable, and it is more than likely that we all could, within a reasonable time, develop some surprising abilities and capacities if conditions demanded.

The Kodiak-Afognak country is a region of very positive moods. Some of them are grim as Greenland's icy mountains, while others are out of this world. At all times the atmosphere contains volcanic dust, and during and after strong winds from the mainland, there is a great deal. The resulting colors at dawn and sunset, I won't attempt to describe. Though I can say that the paintings of Maxfield Parrish approach them.

Whether such beauty affected the spiritual outlook of the stone age fellows of the district, I can't say. Shelikof believed that their spiritual perception was foggy in the extreme. Possibly this was true of those with whom he dealt; or it may simply have been that they were disinclined to discuss matters of belief with the charming Russian, who was, after all, a stranger, an alien and invader. Among these people there was a class of "learned men" called kassieti and it may have been from them that investigators eventually learned that the Koniags believed, or had at one time believed, in a beneficent supreme God, Shliam Shoa; and in an evil god, Iyak, who mostly favored the Shamans.

Following this lead perhaps, the ethnologist, Holmberg, induced an old man

to relate to him some of the ancient traditions and beliefs of the Koniag people. Among them was the following:

Shliam Shoa, the Supreme God, maker of the earth and the heavens, sent a man and a woman to earth to inhabit it subject to one restriction—they were forbidden to eat grass; (the Koniags had long since forgotten, if they ever knew, what an apple was). All went well at first but in time the woman, prompted by curiosity, disobeyed the divine command.

As a first and immediate result, the pair became very much ashamed because they were naked. Sorrows followed, and eventually their numerous descendants perished in a flood that destroyed the human race. The old man was unable to explain how the earth came to be repopulated.

What do you think of that? Surprising, eh? Not exactly, perhaps, what one might expect to find among the stone age Eskimo hunters of a North Pacific island group. Still, there it is.

Decline of the Koniags

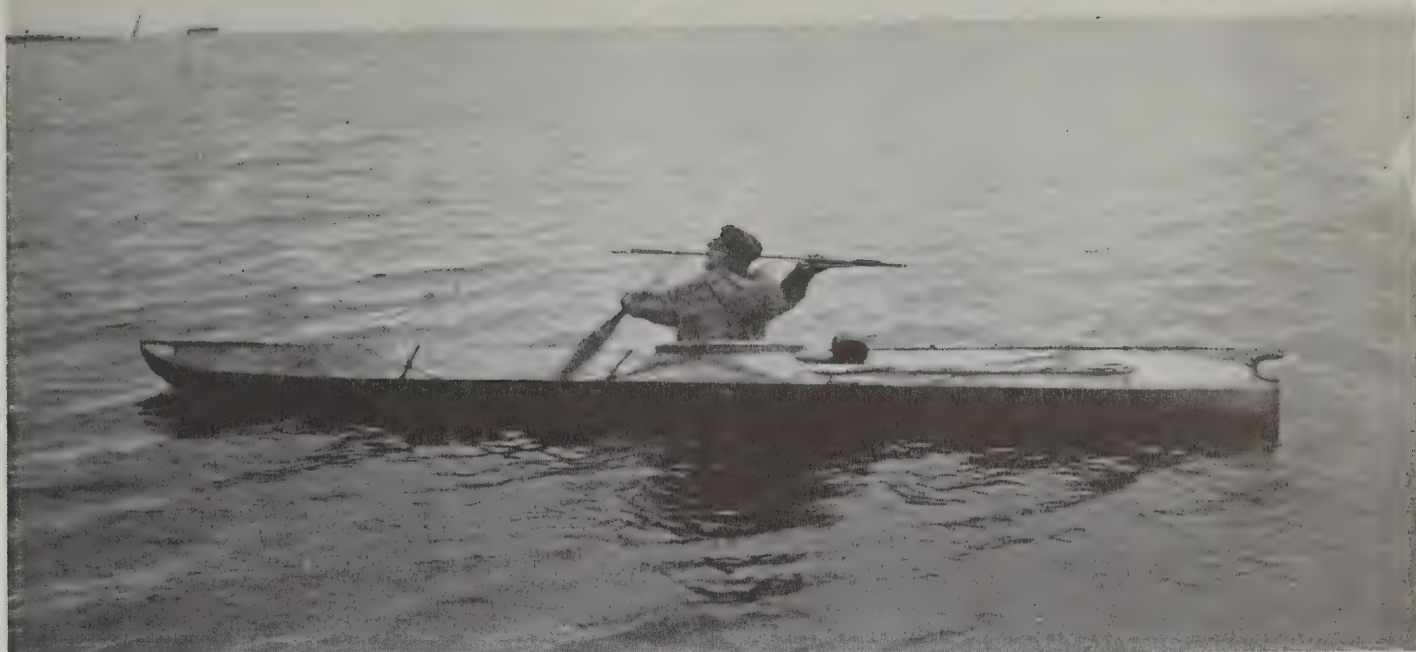
Down through the centuries civilizations have risen and fallen. Cultures have waxed and waned; and it may be that at the time the Russians came, the Koniag culture was showing symptoms of decline. Hrdlicka states, on the basis of archeological examinations, that Kodiak Island was once thickly populated: but there seems to be no evidence that the basic resources of the district had become inadequate. The Russians found the Koniags striving to achieve alcoholic intoxication by recourse to a brew of wild berries; but this can hardly have been a very serious evil; the brew was too weak.

They were inveterate gamblers, but it would seem that this was far from being anything new. Shamanism and sorcery were practiced, and these are always evils; though it may well be that they were not of recent origin.

In any case, some time previous to their discovery by outsiders, the Koniags had begun a process of feuding, which had deplorable results. Nick said that quarrels, originating from the most trifling causes, smouldered until they broke out in violence, which in turn spread widely, feeding upon itself in the process. Early Russian accounts mention this, and recent archeological examination indicates the same thing.

At an old village site in one of the arms of Uyak (Ooiak) Bay evidence of dire distress was only too plain, despite the fact that the place is within an hour's walk of a prodigiously productive salmon river. Nor was the probable cause too obscure. Examination of the burial place showed that very few men had been laid to rest there—but many women and children. Feuding probably killed the men. Certainly it interfered seriously with the storing of much-needed food for the winter.

They lived generations ago, and their culture was a far cry from the one we have today. But they were very human, withal, and so perhaps it is not altogether surprising that they may not have been all, or always, wise.



Alaska Historical Library

Bering Strait is so narrow that natives of Alaska and Siberia exchanged visits freely before the iron curtain was drawn. During the Ice Ages, the strait was either dry or so narrow as to present no barrier to people migrating from the old world to the new.

Prehistoric Man in the Americas

by Ernest K. Allen

Alaska's Eskimos, closely related to people of the Siberian coast, are thought to be the last American migrants from Asia, perhaps having come long after the Ice Ages ended.

Wien Alaska Airlines Photo by Frank Whaley



QUESTIONS often arise regarding the origin of the prehistoric peoples who inhabited the American continent. Anthropologists are generally agreed that no branch of the human race had its beginnings in North or South America, and they tell us that in all probability there were no human inhabitants whatever on these continents until thirty-five or forty thousand years ago. From all available evidence they conclude that the first members of the human race to set foot on these shores were well developed *Homo sapiens*, probably not much different from modern man in physical development and appearance.

But we know that men have been here for a very long time, in terms of human life on earth. Where then did these first Americans come from? How did they come? And when did they arrive?

The evidence is apparently conclusive that they came from Asia, crossing the Bering Strait to what is now

Alaska, following the animals they hunted with wooden spears tipped with flint points. They probably came in small groups, in slow-moving waves of migration separated by considerable periods of time, and moved slowly on into the interior.

Most scientists believe that these migrations reached their peak about thirty thousand years ago, toward the end of the last glacial period, and continued for several thousands of years until the prehistoric animals these people hunted, whose flesh they ate and whose skins provided them with clothing and shelter, became extinct from causes unknown to us.

The continents of Asia and North America are separated by a distance of only about fifty-six miles at the narrowest part of Bering Strait. Many geologists believe the two continents may have been connected by land during the four separate glacial periods which occurred during what geologists refer to as the Pleistocene.

This belief is based upon the fact that a prodigious amount of the earth's water was impounded in tremendous ice masses, many thousands of feet thick in some places, which at that time covered enormous areas of both North America and Europe. It is reasonable to assume that the resulting reduction in the level of the oceans during the height of the glacial periods was sufficient to have caused Bering Strait to be dry land, or at least only a shallow channel two or three miles wide or even less, for Bering Strait is comparatively shallow.

Crossings Possible on Ice

Even if the continents were not then joined by land, any such narrow strip of water as existed would have been frozen solid for long periods of time, and men and animals could have crossed freely from one side to the other. Even now the Eskimos cross occasionally on the ice which covers the present strait for more than half the year.

Doubt has been expressed in the past as to whether these early arrivals, having crossed from Asia to the American continent during the last glacial period, could have surmounted any great barriers of ice which might have impeded further progress. For the most part such doubts no longer exist. The extent of the ice masses of the glacial periods has now been mapped in remarkable detail by geologists, whose findings show that glacial masses in Alaska were mostly confined to the high mountains of the north and south—the same areas that are glaciated today. Central Alaska, including the valley of the Yukon River, was almost entirely free of ice masses, and scientists tell us it was scarcely colder there in those ancient times than it is today.

Animals and men lived not far from the margins of the ice masses, and thrived on the abundant vegetation produced by the copious rains of the glacial eras, cold and uncomfortable as it must have been. From the geological viewpoint we are safe in assuming that during the closing phase of the last glacial period, groups of these wandering hunters could easily have traveled up the Yukon River valley during the summer seasons, crossed the valley of the Mackenzie River into what is now western Canada east of the Rocky Mountains, and moved gradually down into what is now the plains area of the United States.

Ancient Camp Sites

Archaeologists, backtracking on the faint trail they left, have uncovered numerous flint spear points among the bones of the animals these people killed along the banks of the Yukon River. In mining excavations in the Yukon valley, deep in the permafrost below the present surface of the ground, flint points and other very early types of man-made stone artifacts have been found, together with evidences of ancient camp sites.

These finds are unmistakable evi-



Alaska Visitors Assoc. Photo by Frank H. Whaley

Alaska has almost as much ice today as it had during the Ice Ages, and in about the same areas. Most of the Interior was free of ice and temperatures were not much lower.

dence that prehistoric people were there ages ago, and their ancient camp sites are dated with reasonable accuracy by methods too technical to be described in a short discussion. Similar discoveries in Siberia show that men of the same early culture and animals of the same species were present on both sides of Bering Strait at that time.

These first Americans were the ancestors of the various pre-Columbian peoples of the Western Hemisphere. Through thousands of years they spread to every part of both continents, to work out their widely different futures. Some improved their way of life very slowly, or scarcely at all. Others of these early people, starting as primitive, roving hunters with no permanent dwellings, gradually drifted southward, stopping at favorable locations for a few months or perhaps many generations.

Thousands of years later they appear as separate and distinct peoples, with totally different languages, cultures and conditions of life and widely divergent physical types. Some of these racial groups, as for example the Incas of

Peru, the Toltecs, Aztecs and Mayans of south central Mexico and the Cliff Dwellers and early Pueblo Indians of our Southwest, attained very high degrees of culture.

Somewhere in their wanderings, probably at some long-forgotten place in southern Mexico, some of these very early people found a wild grass or plant which was the progenitor of maize or corn. The origin of corn is not definitely known, but its cultivation and development through centuries of time enabled these people gradually to adopt the settled ways of agrarian life. From them the use of corn spread slowly to other parts of both continents where conditions were favorable for its growth.

Among the races occupying south-central Mexico it was the gradual shift to a basically agricultural economy, founded on corn as a principal food item, which made possible the great prehistoric civilizations of Mexico, of such a high order of achievement as to astonish the early Spanish explorers who were the first Europeans to come in contact with them. ▲



Even if Alaska's Eskimos did not leave Asia until fifteen or twenty thousand years later, these jolly people are of the same origin as the somber Plains Indians of the States, the highly cultured Incas, Aztecs and Mayans, and for that matter, of the Negroid and Caucasian peoples, for only once, in Java, did evolution produce the genus *Homo sapiens*.

Wien Alaska Airlines Photo by Frank Whaley

Blarney Stone at Sitka

By Myrth Benjamin Sarvela



University of Alaska Historical Library

For decades Sitka was a tourist town, proud of its beautiful setting, its glamorous past and its traditions. Shown above are Indian women on the sidewalk with their handmade wares, as they used to station themselves for the tourist trade. The old log trading post was eventually destroyed by fire, and a modern building now stands in its stead.

IT IS NO ordinary rock, the Blarney Stone. It is a huge, round, solid rock, with a flat top, its surface weathered smooth by the winds and rains of countless ages.

Half buried with gravel and weeds, neglected and almost forgotten, it is passed by hundreds daily, unseeing, unknowing. Yet this rock is a symbol of Alaska's history and progress, reaching far back into the legendary past.

Tlingit Indian legend has it that, eons ago, before the white man learned that the world is round, Kluck-e-che-nay, a clam-digger, took his wife and traveled far to find a new home. They came upon a long, curved beach, its fine white sands filled with clams, and in a protected spot nearest the mountain they made their home.

Years passed. There were plenty of clams in the white beach to feed a large family, but no children were born to this couple. Kluck-e-che-nay grew sullen. He stormed and cursed, and blamed his wife for their lack of sons

The great Baranof defeated the wilderness and built Sitka to endure forever.



and daughters and grandchildren.

One day when the tide was low, his wife went to the water's edge and cried out to the sea to wash away the curse that was upon her. A land otter was playing in the surf. He heard her pleas.

"Cry not, woman," he said sympathetically. "Come with me. You are not cursed."

She slid into the cool water and he led her away to his den on a distant island. The den was warm and snug, and the otter brought her many different things to eat. He brought her abalone, salmon, rock fish, crabs and only on rare occasions did he bring her clams.

Months went by, and this woman never heard a cross word. She became restless under the continued kindly treatment, and longed for her old home and her clam-digger husband. One day when the otter returned with food after a long trip, he found her in tears. He asked her gently what was the

matter, and she sobbed that she had been deceived and wanted to go home.

"Impatient woman!" screamed the land otter, "I'll take you home!"

He grabbed her by the hair, pulled her into the water and towed her to the beach where he had found her.

Now the woman feared the wrath of her husband. She slipped into the heavy forest back of their home, crawled under a stump and went to sleep. In the morning she was awakened by the feel of warm flesh against her own. She opened her eyes, and beheld four sons the land otter had given her, all jumping around and demanding food.

DURING her absence, Kluck-e-che-nay had hewed a large stone from a bluff nearby, and moved it to his fire to sleep against its warmth during the cold nights, all the while crying out curses against his sonless woman who had run away.

When she came out of the forest with her four sons, he was so happy he forgave her for going away. Kluck-e-che-nay was very proud of his children as they played upon the beach and followed him about while he was digging clams. He dug from early morning until late at night to supply an abundance of food for his growing sons.

After a time the mother hungered for the food of the land otter. She begged her sons to demand that their father get them some fish and crabs. Kluck-e-che-nay, being only a clam-digger, had no knowledge of how to catch a fish or trap a crab. He paid no heed to their demands, and continued to dig the clams in his beach.

To please their mother the sons jumped into the sea and brought back three fish and a crab. Carrying their offering, they raced up the beach past their father to the outstretched arms of their mother, shouting, "Father's only a clam-digger! Father's only a clam-digger!"

Anger blinded Kluck-e-che-nay. He stopped his digging. Cursing, he stumbled up the beach and grabbed his wife, intending to grind her to bits against the stone. She screamed for help. The sons, who had hidden under the roots of a large tree, rushed out. Seeing their mother about to be ground into dust, they jumped upon their father and bit his arms and legs until the bones cracked and he released his hold upon their mother's neck. As she fell back they each swung onto an arm or leg and pulled Kluck-e-che-nay down upon the stone.

"Quick, mother! Sit upon the clam-digger. We'll grind him until the stone is smooth!"

As they ground him round and round, the clams he had eaten turned to shell. When there was nothing left of their father but dust, the stone was flat and smoothly polished.



E. J. Linscheld

Sitka continued to grow beyond the limits of Baranof's original plan. Street after street of modern homes radiated from the hewn-log heart of the old city.



Photo Shop Studio

Seventy-one years ago Dr. Sheldon Jackson rested on Baranof's Rock and chose a site for his mission and industrial school for Indians, above. In front, as shown below, lies the beautiful bay with its tiny green islands. The historic rock, moved from the spot where Kluck-e-che-nay had placed it, lies half forgotten beside the boulder which bears an inscription in memory of Dr. Jackson.





Richard A. Ramme

On October 18, 1867, with as little ceremony as possible, Captain Alexei Pestchurof and General L. H. Rousseau transferred ownership of Alaska from Russia to the United States. Beside Baranof Castle is a monument, shown above, commemorating the occasion.

Three hundred years after the white man had learned that the world is round, the Russians discovered Sitka Sound, and the bay with its long, curved beach of fine white sand, and on the end of the beach, on a high hill overlooking the island-studded waters, they made their fortress.

Alexander Baranof, possibly the greatest man who has ever been governor of Alaska, is said to have gained solace and strength by walking half a mile down the beach and resting upon the large, flat rock. Here, feasting upon the beauty of the sound, his

The beautiful Pioneer's Home was built in 1934, in Baranof's square. Here live men who have given their years of strength to the development of Alaska.

Elmer Reed



troubled spirit would find peace and his keen mind would solve the problems concerned with the administration of Russian America.

When, in September of 1817, Baranof turned over his work to his son-in-law, Lieutenant Yanovsky, with instructions that he be just and kind to the people of Alaska, he must have gone many times to his rock for meditation.

Shelikof's letter of August 9, 1794, instructing him to build a town, had been always foremost in his mind: "Having selected a suitable place, you will lay out the settlement with some taste, and with due regard for beauty of construction, in order that when visits are made by foreign ships, as can not fail to happen, it may appear more like a town than a village, and that the Russians in America may live in a neat and orderly way. Look to the beauty as well as to the convenience of material and supplies. On the plans as well as in reality leave room for spacious squares for public assemblies. Make the streets not too long, but wide, and let them radiate from the squares. Let trees enough stand to line the streets and fill the gardens, in order to beautify the place and preserve a healthy atmosphere. Build the houses along the streets, but at some distance from each other, in order to increase the extent of the town. The roofs should be of equal height and the architecture as uniform as possible. The gardens should be of equal size, and provided with good fences along the streets. Thanks be to God that you will at least have no lack of timber. Make the plan as full as possible and add views of the surroundings. Your work will be viewed and discussed at the Imperial Court."

This he had done. Along the bay that formed a crescent he had laid out a street, and planned buildings



Allyn H. Brown

Father Veniaminov's century-old church in the shape of a Russian cross stands in Baranof's smaller square, its hewn log walls sheathed in plain clapboard.

that would last a century. All were to be of hewn logs, with space in front for gardens.

From his fort on the hilltop to the creek that intersected the nearer half of the crescent was the industrial and business section. Hewn log buildings lined the shore side of the street and faced a large square. Midway from the fort he had left another, smaller square, across from his little church. The streets were lined with whitewashed picket fences, and many trees were left standing.

Mariners from other countries had complimented Baranof on the beauty of his port, assuring him it was one of the most scenic in the world. It was, too, with its neat log buildings and white fences against the high mountains, and the island-dotted sound in front.

The disappointments, antagonisms and hardships suffered during his forty years of effort to build a colony in this new and distant land were as nothing compared to the living, thriving monument he had built for his beloved Russia. Sitka would live and grow forever. With his own will and strength he had pushed the wilderness back to this flat stone. Nature would never reclaim his townsite.

During the next forty years, while Russia owned Alaska, there were eleven more managers of the Russian American Company. They lived in, enlarged and improved Baranof's fort, which later became known as Baranof's Castle. Important people from all over the world were entertained here by the different managers. Times were

gay. Sitka was known among the sailing vessel captains as the "Paris of the Pacific." The city continued to grow. New buildings of hewn logs, the same type of architecture as those designed by Baranof, were constructed.

In the 1840's, under the direction of Father Ivan Veniaminof, an imposing church in the shape of a Russian cross was built in the small square midway from the castle to the creek. Dominating the square, it stood alone, facing the castle, with traffic flowing in one direction only on either side.

THEY pushed the wilderness back past the rock, building a road along the beach beyond the far tip of the crescent, through a beautifully wooded tract of beach land to the mouth of Indian River.

On bright, sunny days the Russians, a gay and hospitable people, set a samovar on the rock and served tea to those going and coming from walks along the road.

On October 18, 1867, the USS John L. Stephens dropped anchor in Sitka Harbor. Aboard were Captain Alexei Pestchurof and General L. H. Rousseau, Russian and United States Commissioners. They proceeded ashore, and with as little ceremony as possible transferred the ownership of Alaska from Russia to the United States of America. No governing body had been established, and no laws applicable to this great land had been enacted. The military controlled the people. The Congress of the United States knew little and cared less about conditions so far away. This august body referred to Alaska as "Seward's Folly," and did nothing whatever to develop "The Great Land."

It was a shameful time. Rum and whisky flowed freely. Indian girls were being sold by their mothers for a few blankets to prospectors and other white men who were drifting into the Territory.

In 1878 the Presbyterian Board of Missions, to alleviate the suffering of the Indians, began its mission work in Sitka. From Fort Wrangell, where there was an established mission, Dr. Sheldon Jackson sent the Reverend John G. Brady and Miss Fanny Kellog to Sitka to preach the gospel and open a school. The school was conducted in the military barracks. There were fifty students present the first day. After a short prayer the missionaries began to teach the assembled crowd the ABC's.

Educational and mission work suffered at the hands of the politicians. Little progress was made. Dr. Sheldon Jackson, then commissioner of education, came to Sitka in 1881 to find a permanent location for his mission and industrial school for Indians.



E. W. Merrill

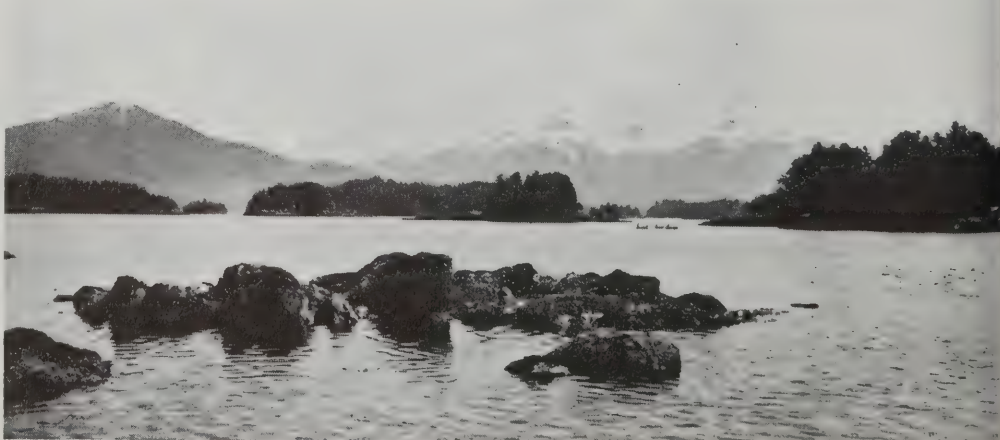
From Baranof Castle on the hilltop, at left above, the industrial and business section stretched along the crescent. There were spacious yards and neat white fences, and the people were gay and hospitable. The "Paris of the Pacific," mariners called Sitka. Across the sound rises the cone of Mount Edgecumbe.



Photo Shop Studio

Even with the whole world to choose from, it would have been hard to find a more scenic spot for a city. The photo above was taken looking across James-town Bay, and the photo below shows the scene across the harbor to the southwest. Behind the city are rugged mountains, snow-capped much of the year.

Photo Shop Studio



The Reverend John Brady had two pieces of property suitable for his purpose. One was beyond the Indian village, "The Ranche", west of the city, and the other was east at the tip of the white crescent beach.

Dr. Jackson looked at the tract west of the city, then walked along the crescent to the city limits and rested on Baranof's Rock. Here he made his decision. This land was an ideal building spot. The ground was solid and deep, on a rolling curve that completed the point of the crescent. A short distance farther on was Indian River, and beyond it rose a sharp mountain that resembled an arrowhead. In front, across the waters of the sound, were tiny green islands and in the distance the symmetrical cone of an extinct volcano. A place of beauty—a place to mold the lives of young Indians toward development and progress. This stone upon which he sat would be the starting line of his mission and industrial school.

Congress passed the Organic Act in 1884, and civil law was established in Alaska. John H. Kinkaid, the first governor, was appointed. In Sitka, the capital, order was restored and it was again a place of gaiety.

The lure of Alaska had begun to seep into the consciousness of many Americans, and the combined freight and passenger boats traveling the Inside Passage to Sitka were filled to capacity with tourists. Local citizens, proud of their city and its historical background, met the boats as they docked, and conducted tours to the many interesting and scenic spots.

There is no official record of who it was that changed the name of Baranof's Rock to the Blarney Stone, but it was very likely some sea captain from one of the tourist boats. Going on tour from one place to another, reaching Baranof's Rock and listening to the story, this man had laughingly bellowed to the crowd, "Sounds like Blarney to me. Must be a cousin to the one in Ireland."

THE youth conducting the tour, hearing for the first time of the fame of Ireland's Blarney Stone, decided that Baranof's Rock was as great as any on earth. If the ceremony of walking

around it three times and kissing its surface would bring these people back to Sitka, he would re-christen the stone and add the Irish lore to its legend. And from that day it has been known as the Blarney Stone.

Young boys of the 1890's saw the rock as a symbol of strength. Hiding their shoes in the grass by the creek, they ran barefooted to the stone and back, repeating, "Make me wise and strong like Baranof."

Near the turn of the century, gold was discovered in quantities in the far North. Every boat brought in adventurers and seekers after the yellow metal. Excitement ran high, and laws were disregarded. The Reverend John G. Brady, who had become the fifth governor of Alaska, was unamiable to the prospector. In 1906, six years after Juneau had been designated the capital of Alaska, the actual transfer of government was made from Sitka.

Away from the beaten track of the prospector and miner, Sitka gradually settled back to its former importance as a tourist haven. Through the years, as late as the 1930's, visitors continued to respect the Blarney Stone, dutifully walking around it three times, kissing its surface, sitting on it while they gazed out across the sound and made a wish that was sure to come true. Some of Sitka's prominent citizens of today followed this ceremony twenty years or more ago.

In 1934 the beautiful Pioneer's Home was built, with Baranof's larger square as its front yard. It was soon crowded with men who had given their years of strength to the development of the Territory. On summer evenings, many of these old men out walking would rest upon the Blarney Stone and look out across the sound, dreaming of their past and likening their disappointments to those of the great Baranof.

Then came Pearl Harbor.

Our whole way of life changed. Instead of leisure and grace and ceremony it was rush and push and hurry. Defense was the cry. Sitka was absorbed by the Armed Forces. The way of the past was jostled about, our heritage of tradition shoved aside.

Gravel was needed for new construction. The Blarney Stone lay in the path

of easy access to the beach, so it was bulldozed away from the spot where Kluck-e-che-nay had moved it beside his fire and his sons had ground it smooth. In months of black-outs, anxiety and the constant danger of invasion, history was forgotten. Sitka lived in the present and planned only for defense.

During all the turmoil and confusion, Sitka continued to grow. Change in the name of progress was inevitable. Air travel has replaced the picturesque and leisurely steamboat of old. Two trips a day bring small groups of travelers, and the citizens of Sitka pay little heed to their arrival. One passenger-freight boat a month serves the city's needs. Sitkans no longer drop their daily chores and rush to the dock when the steamboat whistle blows down the channel. Only the longshoremen and those meeting friends are on the dock to welcome the travelers. Those colorful, hospitable days of before Pearl Harbor have disappeared.

The streets are paved to the Blarney Stone. Concrete buildings in the business section are replacing Baranof's hewn log structures, which had outlasted their hundred years. A seven-story concrete apartment house looks down upon Father Ivan Veniaminof's church.

The school buildings are overflowing with students. Sheldon Jackson Mission and Industrial School has evolved into an accredited high school and junior college where Indian and white children are enrolled. Sitka is fast becoming a city of one race—American.

A two-lane highway is being constructed to Sawmill Creek. Main traffic will no longer flow around the crescent and Jamestown Bay, past the Blarney Stone and Sheldon Jackson Junior College, but will bypass these historic spots.

It may be that in the future Sitkans will recall their heritage, restore the Blarney Stone to the spot where it stood as Baranof's Rock, be hospitable to strangers, and on leisurely walks to Indian River rest upon the stone, gazing out across the beautiful, island-studded sound and giving thanks to God that we are a part of the United States of America. ▲



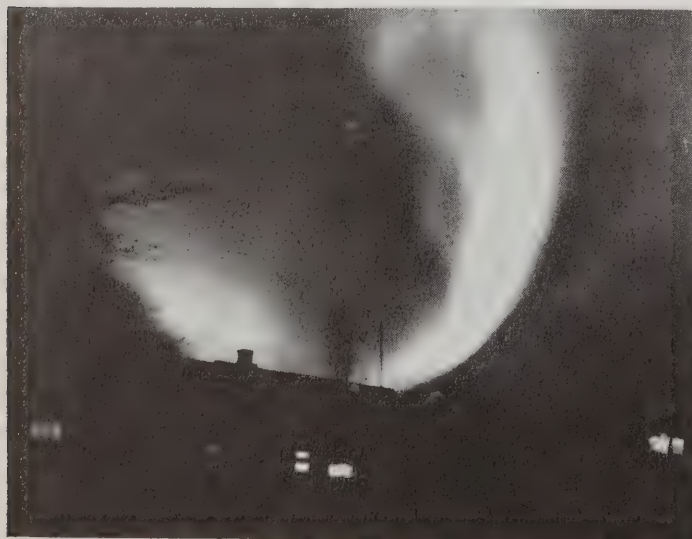
Three Lions

Of the Eskimos, living in the latitude of most frequent auroral activity, only one group is known to have feared it. Some groups believed they could control or communicate with the lights. None are known to have connected them with their true source, the sun.

Legends of the Northern Lights

by Dorothy Jean Ray

Although the Aurora has never been measured closer to the earth than thirty-five miles, it appears to come much closer. Many Alaskans are convinced they have watched northern lights enveloping mountaintops, and even weaving in and out of bushes.



HOW often have you watched them playing across the night sky and wondered, just what are the northern lights?

From the time man first watched the twisting, writhing contortions of mysterious light in the far northern latitudes, he has thought them to be many things, from spirits playing ball with a walrus skull to giant fingers in the sky.

The Eskimos and Indians of North America had many explanations for the Aurora Borealis, most of them now forgotten except in an occasional ethnographer's or traveler's account. But a few wisps of superstition still cling to the northern lights, and it is not likely that they will be dispelled even by the extensive research being carried on during the International Geophysical Year.

A Disturbing Influence

One of the major stations for the study of the Aurora is the Geophysical Institute at the University of Alaska, which is participating with fifty-six nations and more than five thousand experts in the general field of geophysics. Although the study of the Aurora Borealis is only one of the various problems of the earth and its physical forces employing scientists during this time, it is important to the North because of the direct relationship between Auroral disturbances and telephone and radio communications. During a violent Auroral storm, communications are sometimes virtually cut off.

Many fine descriptions of Auroral displays are found in old exploring and sailing stories, but it was not until after the turn of the twentieth century, and improvements in the spectroscope and specialized cameras, that scientific studies were conducted. It was apparent even in the early days of Auroral research that the displays were caused by magnetic disturbances from the sun, which produced light when they collided with atoms of the upper air.

In spite of the fact that the cause has been known for a long time, many fantastic explanations of the lights have been nurtured to this day by uninformed persons—that they are explosions occurring when warm and cold air meet, or lost lightning from the earth. Even those who know what the Aurora is still ascribe to it impossible feats, so say the physicists.

Swishing Sounds?

For instance, one of the most common current beliefs is that the Aurora Borealis makes crackling or swishing noises, and that by applying the proper formula it can be engaged in conversation. Another is that the Aurora often comes down to earth, obscuring mountaintops and weaving in and out of bushes, and that an observer with the correct finesse can draw the lights away from or toward him at will.

These two alleged attributes of the northern lights are likely to become springboards for losing friendships, as there are few long-time residents of the Northland who have not heard the



Dorothy Jean Ray

Long ago the northern lights became the helping spirit of a Big Diomed Islander named Aneuna. The power, though transmitted with the name, diminished until it is almost useless to the Nome woman, above, the fifth generation to possess name and power.

sounds of the Aurora, or seen it at eye level.

Reports abound that the Aurora whistles, crackles, swishes, snaps or howls. Although scientists have not completely discounted the possibility that noises occur as a result of an Aurora, they usually attribute the sounds to ice, snow,

breathing or hallucinatory disturbances. Dr. Sydney Chapman of Queen's College, Oxford, one of the world's authorities on the Aurora, once told a group of scientists meeting at McKinley Park that he was not yet ready to discount entirely the many reports of sounds dur-

Research during the International Geophysical Year may uncover new knowledge about the northern lights, but is unlikely to dispel all superstition and fancy. The Geophysical Institute at the University of Alaska, shown below, is participating in Auroral studies.

Dorothy Jean Ray



ing displays of the northern lights.

Early Eskimos took for granted that the northern lights made noises, usually ascribing them to the spirits that resided in the lights. When the Eskimos of eastern Greenland heard the lights swishing, they said they were the spirits of children whirling and twisting in their games and dances. Eskimos of northern Canada believed that the whistling and crackling sounds were the footsteps of departed souls tramping about on the snows of heaven.

The Eskimos around Ungava Bay in Canada could hear the spirits speaking to them in a whistling kind of voice, which they took pains to answer in a similar voice. These particular spirits they thought were intermediaries between the living and the dead.

The Eskimos of western Alaska say today that "things are not the same as they used to be," because in the early days the northern lights howled a great deal more than they do now.

Northern Lights Come Close

Although scientists have been reluctant to deny Auroral sounds completely, they do deny that northern lights come so close to the earth as to engulf a mountaintop. The Aurora never has been measured closer to the earth than thirty-five miles, and there is doubt whether it actually gets that close. But dozens of lonely northerners have watched their only guest, the Aurora, wrap a mountain with its flimsy nets. I have too, scientists to the contrary.

The Brooks Range in Alaska one night in late August was as bright with the Aurora as if it were dawn. After two years in the North I had learned to view these dazzling displays with equanimity, but this one differed from others as much as hamburger from a T-bone steak. The Aurora had just accomplished the impossible. It had come down to meet the earth just a few miles from me. The top of the highest mountain in the vicinity, almost nine thousand feet of vertical rock, was completely submerged in an Auroral gauze.

When it lifted a few seconds later, I assumed I had been the victim of an Arctic mirage. But that contrary Aurora flickered and dipped over and around the mountaintop for more than twenty minutes, settling now and then with uncanny precision on its pinnacle. What I had witnessed was impossible, according to science. The sensible explanation is that it was reflections of light on skitterish clouds, or some other atmospheric condition. Others who report similar experiences have no doubt seen the same kind of phenomenon.

Eskimo groups as far apart as those of western Alaska and the Copper Eskimos of Canada were convinced that if a person whistled, the Aurora would crackle and then swoop down to earth. The Copper Eskimos also said that if a person spat at them, the various forms of light would run together in the middle and suddenly change form. The Eskimos around Ungava Bay were able to

call down the Aurora when it talked to them in its whistling voice.

Various ways of talking to the Aurora are still popular in Alaska. Several of my Alaska friends have tried to convince me that a human being can make the Aurora dart or waver to the earth with a whistle. When I said frankly I did not believe it, one friend volunteered to demonstrate the technique of maneuvering the lights. After a fifteen-minute whistling demonstration, he turned to me and asked, "You didn't believe it could be done, did you?"

I felt somewhat like the man watching a fisherman who said as he reeled in a sunken boot, "This hook really works, doesn't it!"

My conclusion was that it was a draw. Half of the whistles seemed to draw the Aurora nearer to the ground, but half seemed to chase it farther into the sky. My friend used his fifty per cent success as proof that it could be done, and I used his fifty per cent failure as proof that it couldn't. Both of us emerged with original opinions intact.

A generation ago, the Indians living on the Koyukuk River in Alaska thought that whistling was too subtle. They began beating on metal pans to catch the attention of the Aurora.

This calling of the Aurora implies that it was considered a friendly being or phenomenon. Generally it was, although it is strange that something so flashing and mysterious as the Aurora was not more often an object of dread.

Small wonder, though, that the early inhabitants of North America credited strange powers to the northern lights, or that modern people sometimes report unlikely incidents.

In the northern latitudes a display of the Aurora begins inauspiciously, with not even a hint of the drama to come in the steady iridescent haze that forms on the horizon early in the evening. The sky, dark and so far away, gradually begins to open up as the haze settles into a comfortable glow, warming the sky above and gradually widening its expanse to immeasurable depths and widths. Then, almost without prelude, the sky moves.

Spectacular Display

Streaks of light toss about with abandon. Gargantuan, ghost-like arms, chasing and darting, appearing and disappearing spontaneously, writhe across the upper sky. Suddenly, for a second, all light melts away and the sky is almost dead with darkness. But just as quickly the lights blossom again in pulsating waves and arcs, and then, as if to test the credulity of man, giant draperies of light wash in quickly undulating movements across the whole heavens, sometimes stabbing the ends of their folds toward the earth, dripping with the green of grass or the red of blood.

In spite of the flamboyancy of the display, there are only a few recorded instances in which it was presumed to be dangerous or disturbing, and most of these come from the more southerly re-

gions where displays are much less active and much less frequently seen.

Rarity alone was reason enough that they should be viewed with more apprehension. The Eskimos living in the high frequency belt south of the magnetic north pole can see the lights one day out of every three, while in central Mexico and the Mediterranean countries they are usually seen only once in ten years, five times a year in San Francisco, twenty-five times in Chicago or Seattle, and one hundred times in Edmonton, Alberta. Residents of Fairbanks and Nome can see them almost two hundred days a year.

Aurora Considered Evil

As far as is known, the Point Barrow Eskimos were the only Eskimo group who considered the Aurora an evil thing. In the past they carried knives to keep it away from them.

The Fox Indians, who lived in Wisconsin before they moved to Iowa, regarded the lights as an ill omen of war and pestilence, because the lights to them were the ghosts of their slain enemies who, restless for revenge, tried to rise up again.

Both the Eyak and Tlinget Indians of Southeastern Alaska believed someone would be killed when the northern lights played, the Tlingets considering them a sure sign of approaching battle.

The Creek, who lived in the Georgia-Alabama area, and the Cheyenne Indians of Wyoming and Colorado said that the appearance of an Aurora meant the weather would change for the worse. The Penobscot Indians of Maine credited the Aurora with bringing a windy day. Not only that, but if the lights flickered during the display, the wind would blow strong and steady; if they were of a still and quiet nature, the wind would be squally.

A nineteenth century saying from Massachusetts went, "South wind and storm will come within forty-eight hours after northern lights." Scientists have not yet denied that weather changes may be caused by an extremely intense Aurora. Certain phenomena such as the expansion of the upper atmosphere may very well upset the lower atmosphere where the weather originates.

To see and hear the Aurora was one thing for America's aborigines. To explain it was another. Unequipped with electronic devices and cameras, they had to substitute imagination for research. Explanations of Auroral light fall into one of two classes: the Aurora originating as fire, or the Aurora was caused by something alive.

In spite of the fact that the northern lights are often flashing and flame-like, there are fewer beliefs concerning fire than one might expect. The Makah Indians of Washington State thought the lights were fires in the far North, over which a tribe of dwarfs, half the length of a canoe paddle and so strong they caught whales with their hands, boiled blubber.

The Mandan of North Dakota explained the northern lights as fires over



THE NORTHERN LIGHTS



christmas

Half a world to the southward
The Christmas greens are strung,
But here there are no children,
No carols to be sung—

Still, out there in the darkness
A door swings welcome-wide
A place where man and weary dogs
Can spend this Christmastide—

And though frozen miles are waiting
Before this journey's done,
The Lord has lighted His candles
For the birthday of His Son!

John C. Frohlicher

which the great medicine men and warriors of northern nations simmered their dead enemies in enormous pots. The Menomini Indians of Wisconsin regarded the lights as torches used by great, friendly giants in the North, to spear fish at night.

One of the most beautiful beliefs about the Aurora is found in an Algonquin myth. When Nanahbozho, the Algonquin creator of the earth, had finished his task of the creation, he traveled to the North, where he remained. He built large fires, of which the northern lights are the reflections, to remind his people that he still thinks of them.

Another tale in which the northern lights are reminders of past deeds is that about Ithenhiela, a Canadian Dogrib Indian character. This story is a variation of the world-wide Magic Flight tale, in which a pursuer is thwarted by the pursued who creates, with magical means, obstacles from very small and often insignificant objects.

The hero of this Dogrib tale flees on a very talented caribou, who, knowing all the tricks, slows down their relentless pursuer by creating hills from a clod of earth, muskeg from a piece of moss, a forest from a tree branch and, finally, the Rocky Mountains from a stone. At the end of his journey Ithenhiela is carried to the sky after pulling a forbidden arrow from a tree. He has lived there ever since, and the northern lights are his fingers moving about.

Spirits of the Dead

Of all the Eskimo groups that have been studied, only one, the Labrador Eskimos, thought that the Aurora was caused by fire. The lights to them were torches held by spirits who were seeking to help the souls of the newly dead over the chasm separating the world from the afterworld.

Most of the Eskimo groups from Siberia to Greenland visualized the northern lights as spirits of the dead playing ball with a walrus head or skull. The Eskimos of Nunivak Island had the opposite idea, of walrus spirits playing with a human skull. Even on earth, one of the greatest pleasures for an Eskimo was a ball game, and to look forward to it in the unlimited leisure of heaven was most inviting. This ball-playing heaven, however, was open usually to only those who had died through vio-

lent means, so one's ethics in life did not necessarily determine where he would spend eternity.

The use of a whole walrus head with its many pounds of skin suggests a decidedly slow game of ball. Anything could happen in heaven, however, and the lack of gravity in the region of the northern lights probably put some speed into the game. The Siberian Chukchee, a group of people similar in many ways to the Eskimos, said that the head roared while in motion. Not only that, but it would strike with its tusks anyone who tried to catch it. The walrus skull used by the Hudson Bay Eskimo spirits demonstrated its enjoyment of the game by chattering.

The Salteaux Indians of eastern Canada and the Kwakiutl and Tlinget of Southeastern Alaska interpreted the northern lights as the dancing of human spirits. The Tlinget spirits were particularly happy because they knew that someone who would be killed would come to join them. The Eskimos who lived on the lower Yukon River believed that the Aurora was the dance of animal spirits, especially those of deer, seals, salmon and beluga (white whales).

A northern explorer of the late 1700's, Samuel Hearne, reported that to the Chipewyan Indians located in central Canada, a bright Aurora meant that there were many deer in the sky. The idea evidently originated from the fact that if one strokes the hair of a deer energetically in the dark, he sees sparks.

Spirits of Children

The east Greenland Eskimos thought that the northern lights were the spirits of children who died at birth. The dancing of the children round and round caused the continually moving streamers and draperies of the Aurora. When single rays darted out in a horizontal direction, it meant that resident children were running toward arriving children to knock them down.

Occasionally, forms or movements of the Aurora were explained in other ways. The Chukchee, for instance, said that the changeable rays were the dead running about in their ball game, and the Bering Strait Eskimos said the swaying movement was the struggle of the players. The Iroquois Indians ex-

plained the movement as the rising and falling of the sky at a point on earth where souls crossed ever into the Land of Souls.

The northern lights also were a source of power to early peoples. Kazingnuk, a man of Little Diomed Island, told me that five generations ago a man of Big Diomed had the Aurora Borealis as his helping spirit. When this man, Aneuna, was a child, the lights suggested to him the best way to conduct his life. Eventually he became the most influential man in the village, the Eskimo equivalent to a chief. Subsequent persons with the name of Aneuna also received power from the northern lights, but to a diminishing degree. To a Nome woman who is now the fifth generation to bear the name, the power is practically useless.

In this Eskimo area, good persons could become spirits in the northern lights when they died. Aneuna reported that these spirits had continuous happiness and never were thirsty nor hungry. The howling and whistling of the lights are their expressions of happiness.

Dr. Margaret Lantis, who has done extensive research among the Eskimos of Alaska, told me a Nunivak Island tale relating how a poor orphan boy was mysteriously transported to the land of walruses, or the northern lights. When he returned he became a successful medicine man with a walrus-spirit helper.

Eskimo witches in western Greenland asked the Aurora, which represented the souls of the dead, to prescribe for the recovery of the sick. In recent years, Kodiak Islanders regarded the Aurora as helpful in curing heart ailments. For example, one boy said that when he had heart trouble, his mother sent for a woman who held him up to the northern lights and then pulled something out of his chest.

But no matter what conclusions were drawn about the lights, no matter what new knowledge becomes ours through scientific investigation, they remain one of the earth's most spectacular sights. The long, dark winters of the far North will always have their compensating beauty—an ever-changing visual symphony of light and color, the Aurora Borealis. ▲



Dawson, above, was a collection of dingy gray buildings huddled at the base of a mountain. The great shell-shaped scar above the town was a slide, which legends say, buried an Indian village a century before.



Arnold E. Friborg

It is possible that the fur seal rookeries discovered within recorded history are but a remnant of a much larger number, many others having been cleaned out ages ago by prehistoric man as he made his pioneering way along the coastlines of the globe.

Seals, Seaways and Sailormen

by V. J. Boucher

Pelagic sealers and raiders, flying various flags and operating from Japan, almost exterminated the North Pacific fur seals. Finally the U.S. Navy exterminated the pirates.



IN ALL the world there can scarcely be a more gigantic, more nearly perfect volcanic cone than Shishaldin. To near ten thousand feet it rears its smoke-plumed crest, trailing a thin streamer northward if the wind be roaring in from the ramping Pacific, southward if the winds come raging down over the bursting billows of the Bering Sea. Here is majesty—snow-robed Shishaldin, sublime, serene among the rioting elements, gazing calmly down, as for uncounted centuries past, upon the annual comings and goings of the fur seal herds through the Aleutian passes.

Nor has Shishaldin kept that vigil alone through the dim millenniums. Ah, no. Many peaks in many places have watched the migrant millions of the fur seal tribe, in the Antipodes as in the Antarctic, in the tropics as in the gale-swept North.

The tropics? Yes, where the cold Humbolt Current tempers with a sub-Arctic chill the sea bordering South America's equatorial west coast, they may sometimes be found.

Many millions of fur seals, none can even guess how many with any approximate accuracy, for there exists a distinct probability that the fur seal rookeries discovered within the recorded history of exploration may be no more than a remnant of a larger number—possibly a much larger number—the greater percentage of which was destroyed by prehistoric man as he, boldly and confidently, no doubt, made his pioneering way along the coastlands of the globe in search of new lands and plunder.

Such is the opinion of no less an authority than Dr. David Starr Jordan, an opinion which seems reasonable to me in view of two pertinent facts. First, the equipment necessary for efficient sealing operations is, even today, exceedingly simple. Clubs and knives ashore, spears and clubs afloat. Second, whatever the truth about the fur seal's much touted intelligence, the creature is, like the Pacific salmon, actually an amazing automaton in many important ways.

The behavior of both the fur seal and the Pacific salmon is predictable to the extent that so long as one individual of either species remains alive in the ocean, it will in due course return to the general strip of island beach or stream gravel on which its life began. Hence the complete physical extinction of the numerous salmon colonies comprising the run of any particular stream, or of the seal herds belonging to any particular rookery, is a distinct possibility.

Rookeries Remote

This possibility may account for the fact that all the rookeries discovered since the mid-1750's or thereabouts have been located on uninhabited islands, in regions so remote from human settlements and in seas so hazardous that their locations were unknown even to the natives of the nearest inhabited regions—however much the existence of some of these rookeries was conjectured.

Since time out of mind, native hunters on both shores of the North Pacific had taken their modest toll of the fur seal herds which, in the spring, appeared regularly as if from nowhere, and progressed in a more or less leisurely way toward the North. There has never been a corresponding southerly movement in the fall. Where the seals went, none knew until the survivors of Vitus Bering's last expedition returned to Kamchatka in the late summer of 1742.

For the greater part of the year those men had survived as castaways on Bering Island of the Commander group, and during that time the amazing English naturalist of the expedition, George W. Steller, had noted and described everything that came to his attention. So thoroughly did Steller work that,



When the use of firearms in seal hunting was outlawed, crafty sealers shipped crews of British Columbia coastal Indians. These experts with their silent two-pronged spears proved to be more effective killers than white men with their scatter guns and buckshot.

had he lived to complete his reports, later naturalists would have found little to do on the Commander Islands. As it was, he gave the scientific world its first description of a fur seal rookery, as well as descriptions of the northern fur seal, the northern sea lion and the sea otter. His reports had far-reaching consequences.

In the North, a frenzied fur rush led to the discovery of fur seal rookeries on both islands of the Commander group, certain small islands in the Kurile chain, various islands in the Sea of Okhotsk and, eventually, the Pribilof Islands.

In the southern hemisphere a strenu-

ous search began for "sea bears," as Steller had called them (actually the fur seal is a relative of the bears), and the quest helped to develop a class of Yankee sailors whose professional excellence was nothing less than astounding. Bold as Vikings, brave as the searanging colonizers of Oceania, secretive and crafty as the Phoenician mariners of Tyre and Sidon, they ranged the latitudes beneath the Southern Cross and southward until, in 1820, the crew of the *Hero*, a sealer from Connecticut, Captain N. B. Palmer, sighted the icy outskirts of Antarctica.

Whether the crew of the *Hero* was actually the first to see this long-sus-

Bachelor seals, surplus males, may be taken without slowing the growth of the herd. As each beach master has a harem of perhaps a hundred females, most males are destined never to reproduce. They congregate in groups, as shown below, and are easily taken.

FWS Photo by E. P. Haddon





Sealing schooners were exceptionally seaworthy craft, manned by expert and daring seamen. Shown above are some of the pelagic fleet anchored off Sand Point of the Shumagin Islands in June 1893. From more than 140,000 skins in 1894, their take rapidly declined.

pected land mass, none can say. Others may have seen it earlier, and perished, or perhaps held their peace. Competition over the decades had been both keen and bitter, and exploitation of the fur seals had been ruthless. By 1820, the southern fur seals were virtually extinct.

This fact seems remarkable in view of the immense hold upon life possessed by a fur seal rookery. The known history of Robben Island is a demonstration of how difficult it is to extirpate a rookery and, hence, how utterly ruthless must have been the handling of the southern fur seal resources.

Robben Island, also known as Tiuleni Ostrov or simply Tiuleni, is scarcely

more than a large rock, long and narrow, in the Sea of Okhotsk some eleven miles from the larger island of Sakhalin. Nowhere more than fifty yards wide nor fifty feet high (according to Dr. Leonhard Stejneger of the National Museum), its reefy beach is approximately two-thousand-one-hundred feet in length. The merest dot on a stormy sea, Tiuleni has nonetheless been, in terms of wealth taken from it, a proper treasure island.

Nothing better illustrates the unpopulated condition of this part of the Far East a century ago than the fact that Tiuleni's existence was unknown until, in the early 1850's, a whale ship passed that way. The number of fur seals killed on that little island during the

Two fur seal rookeries on Bering Island of the Commander group did not seem to affect salmon runs in the Saranna River, on the same island. Up to a hundred thousand salmon were taken annually at the weir shown below, almost within sight of the larger rookery.



next few seasons has been estimated at sixty thousand. Who got what, and exactly when, is obscured, but Captain Scammon of whaling fame reports that, during the Crimean War, a business firm of New London, Connecticut, got a sizeable take.

Pirate Enterprise

This firm secured possession of a three-hundred-ton clipper bark and quietly set about outfitting the vessel for a long and strenuous voyage. A crew was assembled, each man being chosen for professional excellence. Then, to take command, the manage-



J. Malcolm Greany

The fur seal's teeth are admirably shaped for biting. Seals swallow without chewing.

ment scouted up a tough old-timer, a veteran of the sealing business. He was in fact so much a veteran that many thought him too old to command. But the management stood firm and when, eventually, the little clipper stood out from New London, the old man was on the quarter deck.

Just what there may be about a combination of hardship and hard work on a basis of hardtack, hard salt meat, strong coffee, stronger butter and cheese that encourages, or at any rate permits the occasional emergence of an iron man at three score years and ten plus, is more than I can explain. But such individuals do emerge. I used to know one of that sort, so I think I have a tolerable idea what the old man was like as he paced the quarter deck of that little bark which was to be, he must have known, the last major command of his life.

A lean, spare man, I should say, quick of motion, neither large nor small, a little stooped, a little bald, a little grim, too, yet with a ready twinkle in his sea-ranging eyes. From long, long practice he trod the heaving deck with a sure foot, and he could, when need arose, make his wishes clearly perceptible to the busiest sailor on the highest yard, with a voice like the roar of a bull sea lion.

Such, I like to think, was the skillful skipper of the extra-select and super-salty crew who took the little clipper

around Cape Horn, across the purple solitudes of the mighty Pacific, beyond the International Date Line and the Kurile Islands, beyond the eastern reaches of the stormy Sea of Okhotsk, until at last they raised the long, low, lonely rock, the surf-beaten, sea-dusty, seal-haunted solitude of timeless Tiuleni.

And being there they knew, every man of them, that they were as remote from the rest of mankind as if they had sailed their bark to the planet Mars. Without charts, without motors, without radio and radar—without, indeed, most of what seamen take for granted these days—they were in no position to make errors, and they made none. It is safe to say that the cagey old captain was in no hurry to close with this treasure island. On the contrary, it is more than probable that he put the vessel in charge of the chief mate with orders to stand off the island until further notice, while he himself went with the sounding crew in the whale boat.

The chill wind, the flying scud, the racing currents, the screaming sea fowl, the distant and mysterious mountains on Sakhalin, the ugly swell that burst in white-fanged fury on the off-lying ledges and submerged rocks—all this the old man would have noted subconsciously. Such things, he had seen before. What he couldn't see was the bottom, fathoms down, and on an accurate knowledge of that sea floor as holding ground, everything now depended. So no doubt he took his place beside the leadman, after each cast critically examining the tallow with which the lead was armed. And when, eventually, he made his final decision, they brought the clipper in and anchored her at the chosen location, with ground tackle strong enough for a vessel twice her size.

There she rode the season out, buffeted by everything the Okhotsk could



Seal raiders, being pirates, caused much embarrassment in diplomatic circles. The photo above shows a sealing schooner from British Columbia, captured within the three-mile limit by a U.S. Revenue Service cutter in 1888, and beached at Iluliuk on Unalaska. Not until the international seal treaty of 1911 was pelagic sealing effectively outlawed.

throw at her, which was plenty, wet as a half-tide rock oftener than not, for she was long and sharp and low and she had the heavy top hamper proper to her type—hamper which, when the sails are full and drawing, steadies a vessel, but which, when she lies anchored in a sea way with sails furled, rolls the heart out of her.

Tiuleni Cleaned Out

But these men were sealers as well as sailors. They watched their chances, worked when they could, and when at last they stood out homeward bound,

the island was cleaned out and in the clipper's hold was stored, we are told, "a valuable cargo of seal skins." It was an especially valuable cargo because, due to the war, the price of fur seal pelts was abnormally high.

So it appears that both captain and crew measured up to all expectations, and the firm profited handsomely from the venture.

Tiuleni, as I said, was cleaned out. About that time, too, the whalers discovered that the right and bowhead whales of the district had "migrated." The mists of near-forgottenness closed over the little island, and fourteen

Clubs and knives ashore, spears and clubs afloat, are all the equipment required for efficient sealing operations. Shown below is a killer crew on Saint Paul Island of the Pribilofs in 1891, when the island was under lease to the North American Commercial Company. Any conservation measures at the rookeries were nullified by pelagic sealers, killing illegally and indiscriminately.

National Archives





Alf Madsen

Sea lions, as shown above, look much like the huge beach masters among the fur seals. The species are related but sea lions are not migratory and their skins are worthless.

unproductive years slipped by.

Then the great Russian American Fur Company began to break up. Its semi-military fleet went out of business, and it occurred to a certain Captain Limachevski that a little trip to Tiuleni might be worth his while. Accordingly he shipped a crew of Urup Aleuts (transplanted Kodiak Islanders living on Urup Island in the Kurile chain) and sailed for Tiuleni. While still far out, the captain's eager ears gave him evidence of a repopulated and thriving rookery. Faint at first but unmistakable came the volume of vibrant animal voices, an immense "cloud of sound" that waxed and waned, advanced and retreated and advanced again as the billowing air masses shifted over the surface of the sea.

Closing with the island, Limachevski saw how wonderfully the restorative processes of nature had repaired the ruin of earlier years. All the choicer locations were well occupied, harems crowding down in places almost to the water's edge.

Dame fortune had indeed smiled. But now the fickle lady gave Limachevski the laugh. The horse laugh, at that. His Urup Aleuts were not sealers. They'd had no experience with these animals, and they had no knowledge of sealing techniques. Consequently they had no desire to get mixed up in that brawling, bellowing bedlam on the beach. Those five-hundred-pound beach masters with their immense shoulders, their lightning-quick necks, their big, ivory teeth and choleric dispositions, looked very

tough. The Aleuts refused to leave the schooner.

In the not-so-long before, such conduct would have been unthinkable. For much less offense, in the old days, Aleuts had been slaughtered. But the old days were gone and eventually Captain Limachevski, having exhausted his patience and his probably considerable powers of verbal persuasion, sailed back to Urup with no valuable cargo in his hold.

But the next year the seals of Tiuleni were not so lucky. The schooner *Mauna Loa* stood in, and aboard her was a singular and somewhat sinister character who signed his name as D. Webster. This curious customer is variously referred to in the official reports dealing with the Pribilof seal herds. Here it may be permissible to refer to him as "a prominent club man of the North." In this instance he went ashore on Tiuleni and clubbed everything he could find. To the British Bering Sea Commission Webster stated later that he took fifteen thousand skins. Dr. Stejneger finds good reason to believe that the actual number was "probably more than twenty thousand." In any case, the little island was cleaned out again.

And did that finish Tiuleni? No. That was just the beginning.

As regards the *Mauna Loa*, I'm inclined to believe she was of the sort known as a Grand Banks schooner. After long, strenuous and frequently tragic year-round experience on the Grand Banks of Newfoundland, East Coast builders eventually produced fishing schooners that were marvels of their kind—staunch, swift, safe and readily managed. They could go anywhere and stay at sea for protracted intervals, by reason of complete independence so far as engine fuel and machine shop work were concerned. Most such craft found employment in the East Coast fisheries, but in time some of them came around the Horn and took up headquarters in various Pacific ports, especially San Francisco, where their merits were quickly perceived by certain business men.

Though in 1911 they seemed hardly worth protecting, the remnants of the Pribilof Island seal herds have restored themselves to what is considered the optimum population in point of available feed. About 65,000 pelts are taken annually under FWS supervision.

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An Honest Dollar

In 1869, after almost three-quarters of a century of virtually air-tight monopoly, the Russian American Fur Company began to disintegrate. As a result the next two years were a sort of interregnum period when, over the vast North Pacific, there was little law and less enforcement. During that interval certain West Coast business men secured control of some of the superb little Grand Banks schooners, and sent them into the domain of the now defunct company to "make an honest dollar." Ostensibly their mission was to discover new fur seal rookeries, especially among the Kurile Islands.

Maybe some new rookeries were found. I don't know. But all quickly discovered that in the North Pacific they were free to do as they pleased, and most of them promptly became marauders. Unpunished; and so encouraged, they took to raiding all the

northern fur seal rookeries from the Pribilof group in the east to the Shantar Islands off Kamchatka, with the Commander Islands and Tiuleni as way points.

At this stage they were not, properly speaking, pelagic sealers. That came later. They were out and out raiders, bold enough and reckless enough to prosecute their line of endeavor against the resources of a friendly nation, in time of peace, knowing full well that if captured, nothing could prevent confiscation of their vessels and long terms of forced labor for their crews. Their conduct, I should say, conformed to the well-known pattern of human behavior described by the saying that "When the cat's away, the mice will play." In this case the cat was the Russian bear, and after awhile he came back.

Presently Tiuleni was leased to a fur company which agreed to terms almost identical with those now in operation on the Pribilofs. No seals were to be killed except the surplus bachelors—a procedure certain to speed the increase of the herd. In addition the lessees, voluntarily, killed no seals during the first two years of their tenure, and none in certain years thereafter.

Herds Decimated

With this type of management the herd quickly began to show an increase and would, no doubt, have continued to increase until its optimum population had been reached, except for the astonishing boldness of the raiders. They took to outfitting in Japan and raiding from there under various flags. Tiuleni came in for a more than ample share of their attention because it was conveniently at hand, poorly protected at best by a single schooner and a few Aleuts, and not protected at all in the later part of the season, after the lessees had taken their legitimate catch. No one will ever know how many seals were clubbed indiscriminately on that isolated rock, nor by whom, although eventually the names of some of the marauding vessels became known.

And yet, over a period of two dozen years, the leasing company took a total of 44,909 skins. From first to last the company scrambled, perforce, with raiders. At the termination of the lease the island still had a certain value, despite the development, meanwhile, of an efficient pelagic sealing procedure.

At times along the years the situation seemed so desperate that the small remnant of Tiuleni's herd scarcely seemed worth protecting. At the same time the guardians of the Pribilof herd were having the same doubts. In 1905 Japan somehow secured control of Tiuleni and held it until, forty years later, the Russians recovered it and tucked it in behind the iron curtain, with a few seals presumably still in evidence.

In the world of nature we find, if we go below the surface even a little, that active and powerful forces have a tendency to regulate the size of any population existing at any time or place. The population may be beast, bird, bug,

fish or, for that matter, human. These forces tend to increase each population until it reaches the size best suited to prevailing conditions, and thereafter to maintain that size. In case of disaster, these forces tend to prevent the utter extinction of any given population.

This being the case, we find that the northern fur seals are protected, as individuals, by their remarkable strength and by the marvelous ways in which they are equipped for the sort of life they lead. As a species, they are protected by the fact that large numbers of juveniles do not return to the home rookery until the spring of their third year of life. So the rookeries of an island can be utterly cleaned out at one time, and yet be repopulated shortly by the numerous juveniles which were safely out of reach while the slaughter was in progress—which explains how Tiuleni was repopulated even though it was cleaned out on two different occasions.

Of course, if a rookery is cleaned out every year or two for a long enough time, extinction must necessarily follow, as is known to have happened to the extensive rookeries which once existed in the Galapagos group and must have happened to most of the other southern fur seal islands.

In certain quarters it has long been known that fur seals are to be found, at any time during the spring and summer, all the way from Southeastern Alaska to the Aleutian Islands. Frequently such large numbers have been seen as to make it seem probable that undiscovered rookeries must exist somewhere along the north coast of the Gulf of Alaska.

As a result, at one time and another and strictly on the quiet, of course, time and money in considerable amounts

have been expended in searching for such rookeries, and always with the same results. None has ever been found. At present there seems no doubt that the summer population of fur seals in the Gulf of Alaska consists chiefly or entirely of juveniles belonging to the Pribilof herd.

Such juveniles are to be found at times in the immediate vicinity of Ketchikan. Between early March, 1954, and early April, 1955, I encountered three within less than a mile of the city's waterfront. How many others I failed to see is anyone's guess.

Pup Seal Found

In the late afternoon of a late January day in 1955, snow had recently fallen and it was coming on to a blow, so I walked the short forest trail to my landing on Gravina Island to make sure the dory would be all right no matter what happened during the night. From the landing, the scene was about as wintery as it could be in such a place. Close behind Ketchikan, the wild, primeval mountains heaved their snowy shoulders up into the scudding sky. Mile-wide, lead-colored Tongass channel was flecked with white where the short, steep, quick waves burst in froth and foam. Along the shore a light surf ran, and tumbling along with the flotsam of driftwood and sea weed was a dead fur seal.

I retrieved it and found to my amazement that it was a gray pup, and hence, I judged, not more than six months old. Young fur seals are black at first, then gray, then brown. If my guess was right, this little seal had been weaned late in the season and had left the Pribilofs about November. It had been a

A newborn fur seal pup is a tiny black creature that doesn't even know how to swim. Yet in two or three months it must be ready to fend for itself in the stormy North Pacific.

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winter of severe storms, and that the small creature had been able to live so long and travel so far seemed astounding.

And it was doubly astounding in view of what I learned soon afterward. The little body was pitifully thin. From nose to tail tip it measured thirty-one inches, but it weighed only twelve pounds—little if any more than the normal weight of a fur seal pup at birth.

Like a Bear Cub

Knowing I had no legal right of possession, I surrendered the carcass to the local agent of the U.S. Fish and Wildlife Service after having made a superficial but instructive examination of it. The head and face were, I thought, rather like those of a bear cub. The ears were like those of a sea lion—capable of being closed water-tight by twisting spirally. The eyes were of the liquid, lustrous type such as the old-time harem beauties are said to have attained by the use of belladonna, such eyes as enable the flying squirrel to see in the dark. The whiskers were stiff and surprisingly long, and I judged they might be very useful in exploring rocky crevices far below the surface, at night.

In proportion to the body, the flippers were surprisingly large, and highly specialized in structure. The nostrils were vertical and capable of being closed completely. The creature was, I thought, a marvelous example of adaptation and specialization, with more or less the characteristics of a sea lion. But the teeth were unique in my experience. The only teeth remotely like them, so far as I know, are those in the lower jaw of the sperm whale. Every tooth in that pup's mouth was exactly like every other. They were widely spaced, about half an inch apart, and round in cross section, about an eighth of an inch in diameter and somewhat more than an inch long, the outer two-fifths of each tooth being curved backward at an angle of forty-five degrees. As an arrangement for catching hold and hanging on, it must be near perfect.

As the jaw of a seal, like that of any carnivore, is incapable of sidewise motion, the shearing effect of this mouthful of curved spikes must be very powerful. The fact that the teeth are all alike means, I should say, that the fur seal does not masticate its food. Like the sperm whale, it just tears out chunks and swallows them. My guess is that the fur seal, like the sperm whale, has a very specialized small intestine and a great length of it, to compensate for its failure to chew what it swallows.

I didn't make any internal examination. I just surrendered the pup to the Fish and Wildlife Service office, requesting that I be given a report on it later. Presently I was informed that the

little seal was infested with hookworm (*Uncinaria lucassi*) from the time it left the Pribilofs, and that the weakening effect of the parasites had caused its death. The fact that the young creature, thus handicapped, had survived the wintery ocean long enough to reach the southern end of the Alaska Panhandle in late January, is eloquent testimony of the inherent strength and stamina of its breed.

In all the incident was highly instructive, and gratifying as well. John Wendler of the FWS office removed the pup's skin and had it tanned, and it now serves a useful purpose as part of an exhibit used for instruction in the local schools.

This was my second experience with juvenile fur seals in less than a year. The first one took place on a flat calm day in early March, as I rowed my dory homeward from Ketchikan. It was a time of big tides, and there was a great deal of drift material afloat. It seems surprising that, under the circumstances, I noticed the seal at all. First I thought it was a small stump adrift. Then it began to look oddly like a great horned owl on snowshoes, lying face up in the water. At this stage I began to investigate.

Inquisitive and Exuberant

Spending so much of its life at sea, the fur seal necessarily sleeps on the water, or perhaps I should say, in it. Normally it sleeps on its back with its body relaxed and in a curve, little showing above the surface except the lower jaw and nose at one end and the hind flippers at the other. So the position of this particular seal was unusual. It was floating high, with its back held straight.

I rowed quietly toward it until I was within ten yards, expecting it to dive at any second. But nothing happened, and presently I was right alongside. I took hold of a flipper and lifted the creature aboard. As I did so, a single drop of blood fell from the right ear. Evidently it had been injured in some way, but even so, it was full of life and mad as a wet hen. Also it was bigger than I had supposed, weighing perhaps forty-five pounds.

With the seal aboard, I seated myself and began rowing while my captive took a fighting stance almost at my feet and set up a great huffing and puffing like the big bad wolf in the nursery story. It occurred to me later that the animal could have hopped up onto my lap and bitten chunks out of my face if it had wished to, but at that time I was ignorant of the sort of teeth it had, so like the bulldog in the story, I was brave because I didn't know any better. Which may have been just as well. Animals always know whether one is afraid, and fear in a human being tends to excite them and make them dangerous. If a person isn't afraid, the animal will usually calm down before long.

And so it was this time. My passenger soon began paying attention to its surroundings. It examined my boots and the interior of the dory, while I rowed

madly for Gravina Island in hopes that it would stay with me until I could make the beach and call all hands to come and see it. In this I was disappointed. After a number of attempts the seal got both hind flippers braced and hopped overboard like a giant bullfrog. Presently, to my surprise, it reappeared and went along with me, close alongside, for perhaps fifty yards.

I judged this juvenile to be about nine months old, as it was large and definitely brown. When I first took it aboard it was as smooth and evenly colored as a light-brown inner tube, but as it began to dry, cracks appeared in the surface and the beautiful soft brown fur showed through.

This seal's behavior in the water was altogether different from that of a hair seal. It rose high above the surface at times, splashing a good deal and conducting itself with a vigor, gaiety and exuberance quite at variance with the hair seal's quiet solemnity.

Joyous Behavior

The same sort of joyous behavior was evident in the fur seal I saw in April, 1955. It accompanied the dory for some distance, splashing and cavorting, rising out of the water and looking more like a foxy-faced bear cub than anything else. To a man looking through a 'scope mounted on a small bore, high speed rifle, the difference between the two kinds of seal must be readily apparent. Even so, some fur seals are probably shot each year, for there is a blunt sort of thinking which has it that fur seals eat fish and hence are competitors of the commercial fisherman, the salmon fisherman especially.

Actually, the findings of competent naturalists over the past sixty years agree that the food of the fur seals consists, in the main, of species having no important commercial value. They take herring occasionally, and some salmon, but a considerable portion of their diet consists of squid. It may well be that, in value to the fishermen, the squid they take compensates for such salmon as they eat, because squid feed heavily on small fish, and all salmon are small fish at the beginning of their sea-feeding period.

This juvenile fur seal population in the Gulf of Alaska eventually arrives at the Pribilofs, unless something goes amiss with the mysterious mechanism which normally and almost always enables each individual to find its way to that distant location.

No one, as yet, understands how fur seals, and salmon, are able to return to the place in which life began, but there is no doubt whatever that they nearly always do so. Exceptions are extremely few, and extremely interesting biologically. The fur seals of the various northern rookeries are closely related, but those of each rookery manifest special habits. Besides differences in migration routes, there are slight physical differences caused by the influence of local conditions over long periods of time.

The same is now known to be true

of the Pacific salmon. It has long been within our power to establish runs of Pacific salmon in favorable streams previously unoccupied by salmon. When we understand the factors involved, we shall perhaps be able to establish new fur seal rookeries at will. Sometimes I imagine I can glimpse an immense potential in this direction.

The various moves in the desperate game by which the seal island raiders gradually came to specialize in pelagic sealing, along with raiding, make fascinating and instructive reading. Suffice it to say that, from first to last, excellent seamanship played a notable part. I have mentioned the excellence of the sealing schooners. Their crews were sailors worthy of the vessels. Few of the craft were large. They ranged between forty and one hundred tons, and eventually there were many smaller than forty tons.

The sailors who manned these craft are shadowy figures now, and yet we know that they ranged most areas of the mighty Pacific from the Bonin Islands (those "blue-eyed Bonins" where Nathaniel Savory and his shipmates had settled with their Polynesian wives some time before) to the latitudes of the Pribilofs and Tiuleni, remaining sometimes as late as December. And not only that. Some of them on occasion demonstrated a willingness and ability to take their motorless sailing schooners safely into and out of places where pursuing steamers dared not follow. Theirs was a skill and hardihood worthy of better pursuits.

Interesting Personalities

It has been my fortune, along the years, to become acquainted with two men who were one-time sealers. They were radically different personalities, and I imagine they represented the two extremes with the bulk of sealer-sailors ranging between them. Both were, when I knew them, quiet and apparently law-abiding citizens. One, a tall,

dignified man whose inherent refinement was evident at a glance, had been a schooner captain. He was very quiet, very skillful and very sad. The other was a sailor, stalwart, sturdy, jovial and salty. He was a jovial extrovert, whose confident bearing and sea-going gait were in line with his training under sail. Both, when I knew them, were engaged in the salmon fishery.

The day came when certain of these schooners felt the claws of the bear. That is, they were legally seized and confiscated by Russian authorities. This action caused vast excitement in sealing circles, and a great howl of protest which must have been embarrassing to British and American diplomats, since their vociferous countrymen were out and out pirates.

The Czar's government acted, so far as Canadians and Americans were concerned, with remarkable and quite undeserved forbearance. The men were detained only until their passage to San Francisco could be arranged. Japanese captives probably went to the Siberian mines. Diplomatic relations between the burly bear of Russia and the rising sun of Nippon were not always cordial, even then.

Toward the last, various schooners were seized and beached at Unalaska by the United States Bering Sea Patrol. The story of seal raiding and pelagic sealing is quite in line with the established pattern of an ill-managed and declining fishery. The profit motive leads to the taking of desperate chances, which in turn cause further depletion of the declining resource. Enforcement is as difficult as it is necessary. It finally took the Navy to enforce the United States' Bering Sea regulations.

Disaster at sea was apparently rare among the vessels of the pelagic sealing fleet. I recall hearing of only one, a schooner found floating bottom up near the Asiatic coast. Some of the sealer-sailors were eventually shot. The first casualty, it seems, resulted from a random bullet accidentally fired by an ex-

cited Aleut. Later, shots were deliberately aimed though blank cartridges were occasionally tried first.

Though they were fired upon and sometimes hit, the seal island raiders never shot back. At various times they tried intimidation and, they claimed, bribery. On one occasion, raiders captured the guards on Tiuleni and locked them in the salt house. They took advantage of fog and darkness when raiding, and of dangerous island passes when pursued, but they fired no guns and caused no casualties. Being pirates at best, they knew that any violence on their part could scarcely have failed to gain hemp neckties for all concerned.

Whither the Sailor?

Of the majority who lived to see the enactment of the International Sealing Agreement in 1911, the probabilities are limited. The sailor's profession has rarely been richly rewarding in a financial way, notwithstanding the time and application it takes to produce a proper sailor, nor the courage, skill and hardihood required of him. Probably some of the surviving sailor-sealers managed to establish themselves ashore. Some continued to sail in other capacities until, eventually, they collapsed and died at sea. Some breathed their last in those cheerless sailors' boarding houses once prominent in the purple ports of the seven seas. Others, as sailors have so often done, just disappeared. By and large, they were a brave, able, reckless and hard-bitten lot, whose like may never again emerge.

And yet I think, if one had somehow managed to penetrate the reserve of those salty old sinners, to the white sands of those secluded inner harbors where dwell the souls of sailormen, one would find that most of them were in accord with the Psalmist of old when he wrote, "They that go down to the sea in ships, that do business in great waters, these see the works of the Lord; and his wonders in the deep." ▲



The air view of mighty Columbia Glacier is beyond description. The towering face of the glacier emptying into Columbia Bay is nearly four miles wide.

Backtracking the Sea Otter

By V. J. Boucher



New Archangel on Sitka Sound, shown in the above illustration in 1804, became the new capital of Russian-America in 1802. After it was founded in 1799 it became headquarters of the Russian-American Company sea otter operations, worth thousands of dollars.

WHEN I first set my size nines on the soil of Western Alaska, a few years after World War I, it was in an area which had been, not long before, of prime interest to top circles in the world of high fashion. That this interest was indirect scarcely matters. The area was Belkofski, where in the years following the transfer of ownership from Russia to the United States, the hunters of Belkofski Village regularly took some two thousand sea otter skins each year. This they did in five months or less, and within a radius of not more than fifty miles.

At the same time the natives of Unalaska each year took about as many skins as the Belkofski men did, despite the fact that the number of hunters was small; and there were numerous other localities doing well.

The cannery tender on which I worked was based at a place called King Cove, or more properly, King's Cove. From there we worked both east and west, but spent much time in vast Morzhovoi Bay which has at its head Littlejohn's Lagoon. The names meant nothing special to me then, though later, in the Kodiak country, I became acquainted with some of Captain King's descendants. Later, too, strangely enough, I located an old-timer in

California named Littlejohn, who had in earlier years hunted sea otters with his father, Captain Littlejohn, and with Captain King.

Those schooner captains belonged to the last of the sea otter "fishermen." Some twenty years before I showed up in Western Alaska, the "fishery" had flopped cold, and the pitiful remnants of the once abundant sea otter population had been placed under absolute protection.

What happened?

Well, the answer to that brief question can't be given satisfactorily in any few words known to me. But there's an old trail running a long way back through the years, among the reefs and islands and off-lying rocks and kelp beds of the North Pacific; running as well through numerous old official records and sober Government reports. What one can learn by following that backtrack is considerable.

There's blood along that trail. Horror and heartbreak, too. But there's also courage, and wisdom worthy of note, and some interesting people.

There were the Oonangans of the western island chain, and the stalwart Koniags of the Kodiak area, whom the Russians spoke of collectively as Aleuts; friendly, gentle people in the main,

wonderfully skillful, marvelously patient, endlessly enduring, the best sea otter hunters of them all.

To the east and southeast along the backtrack were the gun-toting Indians of Alaska's panhandle, the Tlingets and Haidahs whom the natives to the westward grouped together as Kolosh; a proud, shrewd people, scrappily independent and very intelligent. They were often an acute headache to the traders, though as a rule they got on rather well with the Yankees, the "Boston men" whose ships frequented their bays and inlets even before the young American republic got under way. Maybe the Yankees and the Kolosh had a lot in common.

I count it my good fortune that I have numbered, through the years, descendants of all these native peoples among my friends. They are capable of great charm. If they like you and trust you, they smile, and when they do, the light that glows in those sometimes somber eyes is heart-warming.

The name of Baranof, "Little Czar of America," is known to most. Not so the name Gregor Ivanovitch Shelikof, though it was Shelikof who persuaded the Little Czar to come to Alaska as manager of the Russian American Company, for which he had done much.

The Shelikofs were an intrepid family. The daughters were half-grown youngsters, I infer, in 1784, when the family wintered in Three Saints Bay at the south end of Kodiak Island. But they grew, as youngsters do, and soon a son-in-law was added to the family.

He was Nicolai Petrovich De Rezanov, a Russian count, a remarkable young man. For one thing, he realized clearly what many find hard to learn—that the administrator of any nation's renewable resources must strive continuously to prevent the energetic, the ambitious and the avaricious from "cutting themselves off at the pockets," so to speak, from "killing the goose that lays the golden eggs." This Rezanov was gifted, it seems to me, with at least some of the attributes of a natural nobleman. Certainly there is no other like him along the old backtrack. We'll meet him again later.

We can pick up the old backtrack almost anywhere, because the original habitat of the sea otter is the whole immense region along the shore side of the Japanese Current, from the coast of Japan through the Kurile Islands, along the Kamchatka shore and the Aleutian Islands, across Cook Inlet and Prince William Sound and all the way down the coast to Southern California.

Over this entire region, sea otters were once plentiful. Probably they were never so numerous as the northern fur seals have been at various times, but they were many. And now, after long years of near extinction, they are increasing again. That's the practical reason for backtracking them now. If we know what happened before, we may be wise enough to avert a repetition of that disaster.

Might as well start over on the Asiatic side, at the westernmost end of the

trail. There, in centuries past, Chinese merchants attended the great fur fairs in Siberia's wild east, where they were offered, among other things, the all but priceless pelts of what were then called sea beavers. These were taken in limited numbers by hunters in the Kurile chain and along Kamchatka's islet-studded coast.

The pelts were large, much larger than those of the land otter. A fine skin, properly cased, would easily be as long as the height of a tall man, though narrow in proportion.

THE outer fur was almost iridescent—"rainbow colors all over," as one oldtimer described it to me. Beneath it was a dense undercoat, deep brown in color, almost black if the animal was old. Over head and shoulders was a generous sprinkling of silver hairs, and often of golden hairs. In this the sea otter has something in common with its relative, the marten, which has a throat patch of orange-gold. Both are members of the weasel tribe, the marten being a sort of poor relation along with the land otter, the skunk and that tribal black sheep, the wolverine, which has a husky build and short tail somewhat like the sea otter's. The sea otter is playful, too, like the land otter, but otherwise it has little in common with its plebeian relatives.

The front teeth suggest those of a house cat on a magnified scale, and the rest bear a resemblance to rather worn human molars. They are reminiscent, too, of the curious shell-crushing equipment found in the mouth of the odd fish known as the chimera. The curious fact is that the sea otter is much like the walrus in its feeding habits, subsisting chiefly on mollusks, crustaceans and sea urchins. Curious, too, that in sim-

ilar waters on a similar diet, the sea otter should have a regal coat while the walrus has no fur worth mentioning and is often "bald-headed all over," and "homely as a walrus" besides.

It seems these creatures have few enemies aside from man, for there is only one offspring born at a time.

They are the only animals, so far as I know, which have fully webbed hind feet furred on both sides. They are powerful swimmers and divers, able to stay submerged for ten minutes at a time. I am told they often swim and even sleep lying on their backs in the water.

I make no claim to furnishing the above description from direct observation. I had been in the old sea otter habitat many years before I saw one, but what I saw of that one individual was in line with what I have heard and read. Later I had a chance to examine a sea otter skull. Whether the young are actually born on the waves, about the overwhelming charm of sea otter babies, about the little songs the mother is said to sing when she plays with her baby, whether the animals are polygamous or otherwise, I frankly don't know.

When the crew of Vitus Bering's wrecked flagship finally returned to Kamchatka after spending almost a year on one of the Kommandorski Islands, they had with them as clothing and sleeping robes about twenty sea otter skins apiece. There were about fifty survivors of the shipwrecked crew. They had taken the skins from animals killed for food during their protracted stay on the island.

In next to no time, Chinese traders bought every last one of those skins, paying for the lot a sum that would amount, I believe, to not less than \$250,000 in terms of our present somewhat

Under the direction of Alexander Baranof, the Kodiak post of the Russian-American Company at Kodiak, below, was a starting point for the hundreds of Russians and natives who hunted the valuable sea otter. Once thousands of sea otters lived in these waters.





The Aleuts, now almost extinct, hunted the sea otters for the Russians. There were more than 25,000 Aleuts then. Now there are less than eight hundred.

devaluated currency. This sounds stupendous, I know, but it is a matter of record.

Much of what happened during the next sixty years sounds insane, and a lot of it was. The surviving sailors of Bering's last expedition told of a vast country to the eastward. They described the island upon which they had been wrecked, where sea otters swarmed in thousands, so tame they could be taken with clubs, as so many were indeed.

The valuable sea otter is about four times as heavy as a land otter, and it spends its entire life on the surface of the ocean. The sought-after fur is a rich dark brown or black, soft and thick and often dusted with colors of silver or gold.

U. S. Fish and Wildlife by Worden

Thereafter, year after year, everyone who could do so sent a vessel out to trade and to hunt sea otters. Some sent whole fleets. Such enterprises are said to have been "very numerous," and the vessels are described as being "of wretched construction." They must have been. Kamchatka ports were separated from eastern Europe by the whole width of Asia, and transportation across that width was the same as it had been in Marco Polo's day. All construction was carried on with the means at hand—chiefly timber, hides and tallow.

I have never seen a drawing of one of these boats, nor have I run across any detailed description, but from fragments I gather that the usual type was about sixty feet long and flat-bottomed. The fastenings were rawhide lashings, strong and flexible but otherwise less than ideal. The crews were landsmen, hunters and trappers from the Siberian wilds. The captains were those among them who had had some experience with flatboats on the Siberian rivers.

Such a one, it would seem, Gerassim Pribilof must have been, for his discovery of the Pribilof Islands in the mid-1780's was some time before there were any trained navigators in Russian America.

Yet it was this same Pribilof, steering northward into the brutal, fogbound Bering Sea, who first of them all, from behind the fog's drifting draperies raised "the mighty chorus that dwarfed the breakers' song, the beaches of Lukanin, two million voices strong," the roaring of the fur seal rookeries.

There are things I don't understand. I know something about the wind and waves and currents, not to mention the fog and snow and icy cold out toward the Aleutian chain. Those conditions can be described by two adjectives—violent and brutal—even for trained

men with modern vessels. What, then, of the landlubber sailors of Pribilof's era and before, and the wretched wrecks in which they undertook to navigate unknown, violent seas?

The records state that "more than three-fourths" of the vessels sent out from Kamchatka never returned. What amazes me is that any of them returned, but some did, and they came back loaded. Careful records were kept, for the Czar's government exacted a tribute of one-tenth from all shipments of furs from the eastward. According to these records, each of the returning vessels brought from two thousand to seven thousand sea otters.

Even at a conservative hundred rubles apiece, that runs into cash. No wonder those who could do so kept sending boats eastward. In time, men ceased to join the crews of these vessels voluntarily, and crews were impressed from that tragic group of the Czar's subjects for whom Siberian exile was in itself the utter end of "the road."

AND what of the impact over the years of such personalities and such base commercial attitudes upon the friendly, kindly natives of the Aleutian chain? Of that we shall hear more, I do not doubt, on Judgment Day.

Nor do I doubt that the sixty years or so before 1800 represented a period of anarchy. As I said, those seeking by trade or other means to reap large benefits from the fur trade of Alaiska, "the great country," were "very numerous." Practically all the outfits so engaged were wildcat outfits of a pugnacious and ruthless variety. As a result, along toward the end of the eighteenth century the once fabulous fur trade of Alaska, and Kamchatka too, became more and more like a disabled ship, limping, barely able to keep steerage way, with immediate prospects of foundering.

Some realized vaguely the danger. Some didn't care. Few could do much about it in any case. Count Rezanov was one who tried. What he needed was a streamlined Fish and Wildlife Service, plus some kind of voluntary on-the-level association of operators like the old Alaska Packers' Association. He couldn't get the former, and he must have known it. The Czar's government simply didn't work that way. Actually he did achieve the latter, more or less.

Scattered over the immense coastal region from Kamchatka to the east was a sprinkling of outfits capable of some degree of stability. These united to form a new one called the Russian-American Fur Company. Baranof was finally persuaded to become its manager.

Then, to secure the regulating authority he could get in no other way, Count Rezanov sought an imperial charter for the new company. In 1799 it was granted. A few years later Count Rezanov appeared at the seal islands. He knew beforehand that the vast flood of seal skins, once an open sesame to the teas and silks of China, had dwindled to a trickle, despite the fact that less than twenty years had elapsed since the dis-



covery of the Pribilof Islands.

The count took a long and thoughtful look at the frazzled fraction which remained of the "mighty chorus" that, not so long before, had "dwarfed the breakers' song," and he issued three orders. No killing of seals for five years. No removal of seal skins from the islands for five years. Remove half the transplanted Aleut crewmen entirely from the islands.

The third order was prompted by the fact that, throughout the Russian tenure of the Pribilofs, the sealing personnel subsisted almost entirely on seal.

The sea otter fishery was continued with Rezanov's approval, but method was substituted for the previous madness. All the sea otter coast from Prince William Sound to the tip of the Aleutians was divided into hunting districts and thereafter hunted on what might be called a two-three system. Each district was hunted hard for two years, then rested completely for three years.

It seems regrettable that Count Rezanov could not have seen the results produced by these simple measures within the next few seasons, but he never did. Only two years after his visit to the seal islands, Nicolai Petrovich De Rezanov died, sick and injured, far away in the plains of Tartary.

NO attempt was ever made to apply the two-three system, or indeed any system, to the regions east and south of Prince William Sound. It was just no use. This was the country of the Kolosh, and similar tribes to the south. It was, furthermore the bailiwick of a fleet of trading ships, some British, some Yankee. All had one thing in common. They wanted theirs, and they wanted it right now, and for a surprisingly long time they got it.

The traders obtained sea otter skins by supplying the Indians with guns, ammunition and other items. Trade was often brisk. According to the record, one single ship obtained two thousand skins in a single season. That sort of thing went on for years. About the year 1800, Baranof estimated that the "foreigners" had carried away 120,000 sea otter skins. Still there were a great many left, which gives some idea what the chroniclers meant when they said these animals were once "very plentiful."

Meanwhile the Little Czar watched proceedings from his capital at Sitka, and what he saw was less than cheering. He could control neither the Kolosh nor the traders nor the trade.

Meanwhile, too, his personnel at Sitka had to be fed, and the directors of his company could not supply provisions. Transportation problems were impossible of solution. Across Asia by caravan, which took three years, then by crude sailing ship from Kamchatka to Sitka. Baranof could not depend upon such a means of supply. He took to buying provisions by the shipload from the trading captains.

He was always short of cash, but thanks to the count's "five-year plan" the seal islands were again hopping



The waters surrounding Kodiak Island are rough and rocky, and violent storms blow in from the open sea without warning. But the early Russians and the Aleuts traveled hundreds of miles for furs, braving the fearful elements in their flimsy bidarkas.

with seals. So Baranof would barter. He would pay for provisions in Pribilof seal skins at one dollar each (Mex.). Probably no great love was involved in these transactions, but business was business.

Then a crafty skipper named Bennet upset the apple cart. What prompted him I can only imagine, for the seal skins were readily salable at a handsome profit in China. Bennet sold Baranof provisions as usual, then loaded up with seal skins at one dollar each, also as usual. Then he hoisted sail and wafted over to Kamchatka where he

sold those same seal skins to an agent of Baranof's company for three dollars each.

Baranof did not hear about this for some time, transportation and communication being what they were, but he did hear of it eventually: from the directors of his company; and what he heard was plenty. But the directors never did solve their transportation problems and supply Baranof amply with necessities, and so he began to "lose face" after the Bennet deal.

It is quite possible that the traders,

At Saint Michaels, Alaska, where many years ago the sea otter played near the coast, there are now relics of two pages from the history of Alaska; this crumbling Russian fort and ancient cannon from the days of the Russian-American company, and the beached river boats, once the pride of the Yukon during the early Klondike days.

Machetanz, from Three Lions



discussing the Bennet affair, snickered into their rum. Among the Kolosh chiefs there may have been a quiet exchange of meaningful glances and perhaps a murmured conversation in Chinook, such as, "Hälö?" "Uh." "Hälö!" which may be freely translated as "Finished?" "Absolutely." "On the way out?" "Undoubtedly, my dear sir." Indians can be expressive without resorting to volubility.

Definitely cornered, Baranof was as desperate as any cornered bear; and far more dangerous. Only one high card remained to him in this desperate game, and he resolved to play it. Able to control neither the Indians nor the traders, he resolved to take the sea otter catch away from his rivals by swamping the hunting grounds with men he could control—Aleuts, the peerless hunters of the westward.

WHAT followed has always seemed to me incredible, fantastic, impossible; because I know a little about the country involved. Out of the desperate situation at Sitka, hundreds of miles away, came yet another wave of tragedy for those endlessly exploited natives of the westward islands.

Word went out to the barabara villages, from Kodiak Island to the far Aleutians, that the hunters were to assemble with bidarkas and equipment, ready for the chase. They were to come to Sitka, hunting sea otters on the way; and they were to start at once.

Imagine what was involved! A journey of more than a thousand miles in the slim, cramped bidarkas, traveling in the open sea from headland to headland across great bays and estuaries. Constant peril from conditions utterly beyond control—violent, twisting williwaws, murderous tide rips, sudden, savage gales. Living off the country, which must have meant eating mostly shellfish and seaweed, for men in a desperate hurry lack time to hunt and fish.

Once in the waters beyond Cook Inlet, the hunters would be in constant danger of attack, for between the men of the westward and those of the eastward there existed ethnic and cultural differences which had always been a source of misunderstanding, dislike and violence.

Worst of all, it meant leaving their families unprovided for—the little children they loved, whom they must have known most of them would never see again. Yet, knowing all this, the hunters went. The Little Czar had spoken.

Most incredible of the whole fantastic thing was that more than half those hunters reached Sitka. Only one-third of them perished on the way. What men they must have been! But even a third of the number meant heavy loss of life, for according to the record the main flotilla was made up of several component fleets, six hundred to eight hundred bidarkas in each, and the bidarkas were two-man hunting craft.

One might suppose that after such an achievement the new arrivals would have met with at least a modest welcoming celebration at Sitka, but the records make no mention of one. They do state, however, that upon arrival the Aleuts were divided into smaller detachments and sent out to gather furs—in the waters of the Kolosh! Again there were those who did not come back.

So, at a price, the Little Czar's "face" was saved. The trading captains no longer snickered. Instead they sought Baranof out respectfully to inquire on what terms he would supply them with Aleut hunters for the sea otter chase from Southeastern Alaska down the coast to California.

Deals were made; while the Kolosh watched in silence, fingered their trade guns and picked off Aleuts whenever they could. One captain, attempting to hunt in the Alexander Archipelago, lost twenty-six Aleuts at one swoop. The Haidahs got them. And so it went.

COUNT REZANOV was dead, and presently Alexander Andreevich Baranof died too, eighty and poor and heartbroken, far away from Sitka, in the tropics, aboard ship, a day out from Batavia. After he was gone, the Russian-American Fur Company was never again managed by a business man. It was ably managed, but not from the standpoint of a commercial enterprise.

The company managers who succeeded Baranof were officers detached from the Russian Navy. They were explorers, navigators, cartographers and builders. They left their names far and wide on the map of Alaska—Jacobi, Wrangell, Hagemeister, Etolin, Tebenkof, Kostromitinof and others. Following Baranof's lead, they made Sitka outstanding among the ports of the North Pacific, with shipyard, foundry, warehouses, magazines and shops. Expert technicians resided there, making, among other things, instruments of navigation.

There is more here, I believe, than appears on the surface. Was there still, in some quarters, the dream that Peter the Great had dreamed? Extending Russian dominion down both sides of the Pacific, with naval bases in Hawaii, until the North Pacific became "a Russian lake"? Who can say?

At any rate, the company's books went gradually from the black into the red, then deeper and deeper into debt, until eventually it was decided to abandon the colonial enterprise. Britain was approached as a possible purchaser, but declined. Secretary of State William Seward then became interested, with results which are known to all.

I have read that the "easy-going Russians" of Alaska were "greatly impressed" with the "energetic and enterprising Yankees" from far and wide who followed the Stars and Stripes to Alaska. I am sure they must have been, for when the Russian residents of Sitka were offered the choice of remaining in Alaska as American citizens or returning to the tender care of the Czar and the Cossacks, the great majority

went back to Russia. Meanwhile, those "parties unknown" who had stolen the golden icons and other priceless paraphernalia from the church in Sitka failed to bring them back. But let us hurry over this embarrassing matter.

Meanwhile, too, certain honorable men in Washington, D.C., were notably impressed, and some unsung hero managed to herd the seal islands under the protecting wing of the Treasury Department. Why? For one thing, certain energetic and enterprising Yankees, who hailed from California, had killed "more than a million seals" on the Pribilofs in a brief three years. The "easy-going Russians," following the thrifty procedure of Count Rezanov, had built up the seal herds to the extent that such wholesale slaughter in so short a time was not fatal. But it was a warning.

And what of the sea otter? Off the coast of California the sea otter was extinct. Off the coasts of Oregon, Washington and British Columbia, according to an official source, the once populous otter had "decreased to such a degree that only at long intervals is the patient hunter rewarded with the prize of one of these valuable skins." Still farther north, in the country of the Kolosh and the erstwhile trading captains, sea otters were to all intents and purposes "hälö"—finished, done for, of a scarcity most remarkable.

FROM Prince William Sound to the farthest Aleutian Islands, however, there was a very different story to tell. This was the region administered under Count Rezanov's two-three system. To quote from the same official report, "There can be no doubt that, had it not been for the protection afforded under the Russian monopoly for nearly three-fourths of a century, this animal (the sea otter) would be extinct today in Alaskan waters."

At the time of the transfer, and for some decades after, the prized sea otter was anything but extinct in areas to the westward. I have already mentioned the amazing yearly takes of hunters from Belkofski and Unalaska; and native people in other localities had a substantial cash income from the sea otter fishery—thanks to "the easy-going Russians" and their system.

From Ivan Petroff's excellent contribution published in 1880 in connection with the tenth census, I quote at random: "I know of only one locality where the number (of sea otters) secured annually was greater in the past than it is now." And, "In the district of Kodiak and the Shumagin Islands the yield has been increased, while at the same time, sea otters have made their appearance in large numbers in the southern end of Cook's Inlet where they were almost exterminated nearly a century ago." Again, "The numerous islands between Attu and Atka are visited by the hunters about once in three years, and under such management the numbers of animals appear to remain the same." And yet again, "The supply of (sea otter) skins in the

fur markets of the world is certainly as great now as at any time since the first indiscriminate slaughter prior to the establishment of the Russian monopoly; in fact it is apparently much greater."

So the energetic and enterprising Yankees of yesteryear inherited seal resources in excellent condition, and the sea otter fishery in an amazing state of annual production, thanks to the strict enforcement of a few simple and sound regulations.

WHAT next? At the time of the transfer of Alaska, the law stipulated that only natives of Alaska might hunt fur-bearing animals. This law was considered ample protection for the fur resources, and there is some reason to believe it was.

But, presently, the law was quietly altered by the addition of a single sentence packed with a two-piece charge of lethal explosive—an economic charge and a social one. The sentence stated in substance that white men married to native women were thereby endowed with the same rights as the natives.

Presently the economic charge exploded, and it blew the thriving sea otter population to, and largely through, the gates of extinction. The social charge may have had a defective fuse. It did not go off, but its dangerous potential lay in the fact that every marriageable woman of every native Alaska tribe was in effect provided by law with a dowry.

The degree to which this potential was generally exploited, if at all, is a matter of uncertainty so far as I am concerned. For all I know, certain Stateside newspapers may have carried full page ads such as, "Go North, young man. Marry an heiress and get in on the sea otter slaughter."

If this happened, official reports make no mention of it. What they do make clear is that at the time, thinly distributed over the sea otter country, was a sprinkling of white men already qualified. Of this sprinkling of fortune's favorites, a small group (less than twenty, I believe) located in the Shu-

magin Islands proceeded at once to exploit this opportunity which had come their way. Promptly they set about the task of "modernizing" the sea otter fishery.

Until then, to quote again from the tenth census report, "the mode of hunting the animal has not changed essentially since the earliest times," which means that most of the catch was taken with spears, after the quarry had been surrounded by bidarkas and tired out.

Now, trim little schooners appeared, the first of a fleet, small, but excellent sea boats, capable of fifteen knots if properly handled. Thus equipped, the "modernizers" moved readily and rapidly about the sea otter country, transporting native hunting crews about the district just as the trading captains had done long before, in the southern and southeastern areas.

About this time, too, guns were introduced into the sea otter chase. There is reference to their use by the Shumagin Island group in the official report of 1880, which means they had then been in use for some time, as the data published in 1880 must necessarily have been prepared earlier.

Old-timers with whom I have talked have been unanimous in their praise of the little sea otter schooners, but as to the techniques and results of shooting there has been what amounts to a conspiracy of silence. My guess is that the shooting resulted in complete loss of a definite proportion of the animals killed.

Most marine animals sink rather quickly when killed. Hence the native method of spearing was thrifty. Some part of the spear, shaft or detachable head, was always fastened by a light, strong line to an inflated bladder or other float, making it possible to recover all game struck.

I have noted that hair seals, if killed instantly while they have plenty air in their lungs, will float for some time. Otherwise they sink fast. If sea otters killed by gunfire always floated, I believe I'd have heard about it long ago. Furthermore, I note that the words "use of firearms" and "reckless" are

closely associated in the official reports.

Perhaps, however, the use of guns did no more than speed the evil day of near extermination, for the two-three system of conservation was no longer used.

So it came about that the thriving sea otter population, built up and maintained over three-quarters of a century, was destroyed in perhaps one-third of that time. By the end of the nineteenth century the sea otter fishery was, "hālō."

Now, after decades of rigid protection, we have evidences of repopulation at various points from the California coast to the Aleutians. These small, isolated herds are being watched as closely as the U. S. Fish and Wildlife Service can watch them. Likely they are also being watched by certain energetic and enterprising persons who, if given a chance, would line their own pockets with sea otter furs in utter disregard of the lessons of the past.

And what of the rest of us, the citizens to whom the sea otter resource belongs as a national inheritance? Certainly no considerable proportion of our citizens will ever resort to sea otter hunting for a livelihood. Certainly, too, no significant proportion of us will ever wear sea otter coats. So far as I'm concerned, it would take a lot more than a sea otter coat to make a beauty out of me!

But if we had a thriving sea otter resource, it could and probably would be administered in some way comparable to the administration of the seal resource, the proceeds going into the national treasury, which can use the money!

In addition to monetary value, and beyond it, there is something far greater. Man was given, and now holds, dominion over the beasts of the earth, an enormously valuable material possession. "Man does not live by bread alone," however, and in this connection I like to recall the thoughts of a noted naturalist. He believed that wild animals are indispensable to the spiritual welfare of mankind. They are far more elemental than we, and we have need to be instructed by them, by our study of them. ▲



Fishing boats at anchor off Chief Point in Uyak Bay. — Manley Sweazey

Footprints on Denali

By Melvin Bryon Ricks



Air Force Photo

A "region rather than a mountain," men have said of the enormous ice dome. McKinley, called Denali by the Indians, 20,269 feet high, is the tallest peak on the continent and rises farther from its own base than any other on earth.

Exploration and mapping of the Mount McKinley area, undertaken by Bradford Washburn, is fairly well completed. The photo below shows Polychrome Pass.

Charles J. Ott



IT WAS May 6, 1794, in south central Alaska. The oldest sourdough had not yet appeared upon the earth. Anchorage's Fourth Avenue, the "big saloon," still formed part of a vast hunting preserve for the Knik Indians.

A daring little sailing vessel named, in honor of her calling, the *Discovery*, poked her way up ice-strewn Cook Inlet and cast anchor just inside Knik Arm, to the left. A pioneer? Obviously, for no sail, no white man, had ever been seen there before.

The weather cleared. Captain George Vancouver, thirty-seven-year-old officer of the Royal Navy, chanced to look northwestward and was startled by what he saw. Over there against the horizon, more than a hundred miles away, stood a chain of stupendous mountains, with a few more, toward the rear, that were obviously still more stupendous.

Now, Captain Vancouver had used, possibly abused, his most emphatic



MOUNT MCKINLEY



mount mckinley

Grey days will fog the summit
Where the crusted snow field lies,
Till sun burns clouds away to bring
This ice and blue surprise
(Men who live with mountains
Must have wonder in their eyes.)

Hot sun will soak the snow drifts
Till rock and old ice part,
So down the unknown canyons
Roaring avalanches start
(Men who live with mountains
Must have courage in the heart.)

When the slides of snow are silenced,
Where the mountain's rivers roll
Prospectors climb the naked rock—
A dream their only goal
(Men who live with mountains
Must have patience in the soul.)

J. C. F.

adjective many times before, but never could he have used it, in Alaska or out, more aptly than now. For among those stupendous peaks, "detached from each other," stood 20,269-foot Denali, the High One, and 17,100-foot Denali's Wife, with Mounts Dall and Russell thrown in for heaping measure.

Of course we can't be entirely sure that Vancouver actually saw Denali himself. Weather conditions being favorable at the moment, however, it is reasonable to assume that he did. If he saw the Alaska Range at all, only a straggling cloud, deftly placed, could have obscured the High One.

The tired, weather-beaten captain returned to England, and there he died three years later. He was buried in the churchyard at Petersham, shaded now by fir trees from far-distant British Columbia. And so, the years rolled on.

THEN came the first sourdoughs, McQuesten and Harper, Mayo and Hart. They "took" Alaska from the rear, as the Japanese did Singapore, and thereby got a different angle on Denali. Turned toward them was the precipitous north wall, the highest vertical ascent of earth known to man. We are told that, around 1878, Arthur Harper, the first prospector on the Yukon (the others were traders), and Alfred Mayo were exploring an unknown river, the Tanana. Ever and anon, from one small eminence or another, they caught sight of an arresting spectacle. A distant white cloud? Or a snow-enshrouded mountain? It was a mountain—Denali himself! The rumor of this stupendous "ice mountain" was to fascinate gold-seekers for years, and its magnetic attraction was to beckon to many an adventurous spirit around Fairbanks in years to come.

In 1889, still pre-Klondike, gold-seeking Frank Densmore camped along the Susitna. His yarns about Denali were received on the Outside with caution. Tall tales were not unusual, from Alaska. Still, the story of Densmore's Mountain was sufficiently convincing to make the new name stick for a few years.

Then, in '96, came W. A. Dickey, a Princeton man with a much better education and a more convincing line. He was thrilled by the sight of the great mountain, and the moment he got back in touch with the Outside, he shipped out some four thousand words about his "discovery" to the papers back home. His story may still be read in the files of the New York Sun, in the issue of Sunday, January 24, 1897.

The first news Dickey heard, once he left the Denali region behind, concerned the nomination of the Governor of Ohio for president of the United States. So he named his "discovery" Mount McKinley, a name that was adopted and published by the United States Coast and Geodetic Survey shortly afterward.



Saekman

From Wonder Lake the great dome looms as a stupendous ice mass, as shown. It is from Wonder Lake that climbers begin their trek to the mountain's base.

Thus it happened that, officially, Denali lost his birthright for a mess of the white man's pottage. William McKinley, of course, was a fine citizen and a great White Father even if he did approve a prison release for Nome's Nemesis, Alexander McKenzie, who was powerful enough and crooked enough to tell even a judge what to do! But McKinley had no logical connection with the history of Denali, which had borne proudly a name that, we may believe, had been unchanged

since the Indians first beheld the newly created handiwork of their great Yako.

But, despite the furor and the protests, despite the lamentations of such influential citizens as Archdeacon Hudson Stuck and Judge James Wickersham, Denali is still McKinley, and his wife is Mount Foraker, representing another statesman from Ohio who probably never saw the mountain.

Joseph Sutherland Herron, a lieutenant explorer for the United States

Denali's south peak is only slightly higher than the north peak, and no easier to climb. Yet the incredible "Sourdough Expedition" missed the highest climbing honors because they chose the north peak, which is visible from Fairbanks.

Robinson Studio





Three Lions

"I would rather climb that mountain than discover the richest gold mine," said Archbishop Hudson Stuck, above.

Pack trains help the climbers cover the eighteen miles from Wonder Lake to McGonagle Pass, as shown below, for the ascent by way of the Muldrow Glacier.

Fritz Nyberg



Army, in journeying over to the headwaters of the Kuskokwim, made the first crossing of the Alaska Range by way of Simpson's Pass in 1899. It was he who bestowed the name of Foraker on Denali's Wife.

Dr. Alfred Hulse Brooks, geologist, penetrated the wilderness in 1902 and got as far as Denali's footstools. He wrote a valuable report on what he saw.

But the first to leave his footprints, literally, upon the shanks of Denali was the pioneer judge, James Wickersham, then a resident of Fairbanks upon whose citizens Denali has cast his most bewitching spell. Though it is not true that the High One is visible from Fairbanks windows every day, as some writers would have us believe, the great mountain is seen often enough to inspire would-be climbers with a deep longing to travel southwestward and upward.

Said the beloved Archdeacon Hudson Stuck, "I would rather climb that mountain than discover the richest gold mine in Alaska!"

Judge Wickersham, too, was intrigued by "the massive dome that dominates the valleys of the Yukon and the Tanana. . . From the bluff point at Chena, one gets a superb view of its massive, snow-capped height, rising far above all surrounding peaks. . . The oftener one gazes upon its stupendous (that word again!) mass, the stronger becomes the inclination" to challenge its summit.

Thus inspired, Judge Wickersham led a small party up the Kantishna River in the summer of 1903. They tackled the great dome with vigor and enthusiasm, but unfortunately chose a route by way of Peters Glacier to the foot of the utterly impassable north

wall of the north peak, up which only Jack and his beanstalk could ever hope to ascend. Though his trial and error attack upon Denali failed in a sense, the judge made a real contribution to the history of the mountain, since his trip not only opened up the flanks of Denali but was also of service in showing future climbers what to avoid.

Hard upon the judge's heels, and in the same season, came Albert Frederick Cook, a New York physician turned explorer. He missed seeing the Wickersham party, though he did find one of Wickersham's camps, and took the same route over Peters Glacier with, of course, the same results. A bit of notoriety descended upon this expedition as a result of the writings of a disgruntled member of the party, one Robert Dunn, whose book, *The Shameless Diary of an Explorer*, directed against Dr. Cook himself, was referred to by Hudson Stuck as "a vivid but unpleasant production." In this book is revealed, in anticipation, the true character of Dr Cook.

THE ambitious doctor came again in the summer of 1906 and his unproved claims upon this occasion set heads a-shaking and tongues a-wagging the world over. He did some real climbing at first, but failed. Then he returned with a packer named Barrill, and with rhetorical phrase and noble but vague description told of reaching the topmost height. His "up and up to the heaven-scraped granite of the top" did not check with reality, however. There were no rocks of any kind higher than 19,000 feet. His photographs of the topmost peak looked suspiciously like one of the peaks away down, but failed even faintly to resemble the real summit of Denali. Cook's lone companion, the packer, later made affidavit that the doctor lied and induced him to lie, and that he and Cook did not get within fourteen airline miles of their objective.

Cook quickly became, to his critics, "the monumental fakir of the ages," particularly after his alleged discovery of the North Pole blew up in his face around 1909. One critic, C. E. Rusk, has aptly observed, "The devil took him up onto an exceeding high mount and showed him the glories of the icy Alpine world and—the doctor fell."

Cook's memberships in the Explorers' Club and the Arctic Club and his honorary degree from the University of Copenhagen were cancelled. In later years the erstwhile explorer served a term as a guest of Uncle Sam for fraudulent use of the mails. He was, after his release, granted executive pardon, and he died only a dozen years ago, far from the hero he appeared to be that day in Copenhagen when he was feted by crowned heads and men of science.

In 1910 Fairbanks made another and more fruitful contribution. This time four prospectors, William R. Taylor,

Peter Anderson, Charlie McGonagle and Tom Lloyd, reached the top of what they took to be the highest part of the mountain, and there planted a fourteen-foot pole bearing an American flag in the hope, it is reported, that the flag might be visible through a telescope from Fairbanks. This fanciful idea, as it turned out, cost them the all-time top honor of climbing to the highest point on the continent. Dr. Stuck, after his successful ascent of the south peak, not visible from Fairbanks, conceded that the four sourdoughs could undoubtedly have ascended the south peak instead, had they been so minded. They could, in fact, have climbed both peaks, but they probably thought it not worth the candle, although they realized after reaching the top of the north peak that the other peak was a trifle higher.

Fairbanks again went to the mountain in 1912. The local Times sent an expedition of three Alaska mushers to deliver a copy of the paper to the highest lot in Alaska. They reached just under ten thousand feet and returned. But that same year the famous Parker-Browne Expedition came within an ace of winning the top award. Estimates of their nearest approach to the top vary from a hundred and fifty to three hundred feet. Courageously they tried again a few days later, and again a heartless blizzard turned them back. It is conceded that no human being can advance against a strong, penetrating wind in an extremely high altitude.

IN THE lucky year of 1913 the vigorous town of Fairbanks was vindicated, at last. Up to the highest pinnacle went Archdeacon Hudson Stuck and his partners three, each playing his role in the exciting drama that was dubbed later, by a wit, "Parsons Parade Heavenward." Besides Stuck, there was a divinity student in the party named Bob Tatum, from Tennessee.

"Minchumina John," an Indian, upon learning the identity of the Archdeacon, followed the party to its base camp with his wife and child. After camp was made, Dr. Stuck was asked to baptize the child, which ceremony he graciously performed. John then asked the Archdeacon if he would kindly marry him to his wife.

Stuck ascended the mountain by way of the Muldrow Glacier, that old ice river with the trick entrance. In fact, there was no other feasible route. Chief aide to the Archdeacon's party was Harry P. Karstens, the "Seventy Mile Kid" described by Grant Pearson in the June, 1950, issue of this magazine. Fittingly, it was Walter Harper, Stuck's half Indian protege, who first set foot on the summit of the south peak. Walter and his bride were lost five years later, in the sinking of the Princess Sophia in Lynn Canal.

It gave Stuck genuine satisfaction



Milotte

McKinley Park Hotel, above, is close to the railroad but far from the mountain.

that this honor should fall to a native Alaskan. It also afforded him a thrill to see, atop the north peak, the flagpole planted there by the "Sourdough Party" in 1910. Previously their matter-of-fact narrative of the expedition had been received, in most circles, with an arch of eyebrows.

Conquered now by mere man, the huge dome, a "region rather than a mountain," slept on like Rip Van Winkle for another twenty years, then to be conquered doubly—both peaks—in 1932 by the Lindley-Liek Expedition.

The Lindley-Liek Expedition, consisting of four enthusiastic Alpinists,

on their way down the mountain after reaching the tops of both peaks, discovered the only real tragedy yet to occur in any group on the slopes of Denali. Allen Carpe and Theodore Koven, two young cosmic ray scientists who were working on the middle slopes when the expedition started its ascent, lost their lives to the merciless elements and one of the treacherous crevasses.

Grant Pearson, at present superintendent of McKinley National Park, was a member of the 1932 expedition.

These were Denali's only interlopers of the decade, but in the 1940's the

Enormous ice rivers flow down Denali's slopes. Shown below is Ruth Glacier.

Griffins



summit of the south peak became a veritable parade ground. Booted visitors seemed never to tire of leaving footprints on Denali! Seven members of the U. S. Army Test Expedition, spurred by wartime need of testing Arctic equipment, reached the roof of the continent in 1942.

Bradford Washburn, who guided the Army adventure, came back in 1947 with Grant Pearson, and both peaks were again ascended. Washburn even brought along his wife, who became the first and as yet the only woman to stand on the top of North America.

Behind this party, a month later, came three plucky ex-GI students from the University of Alaska, Gordon Herreid, Frank Mills and Henry Daub. Without the elaborate helps and safeguards enjoyed by the Washburn party, but indeed with some assistance from abandoned materials and camps, these sturdy youngsters reached the top of the south peak and got back in time to establish a record of only seventeen days for the round trip from Wonder Lake to the summit. Something like express trips to the "roof" had now been established, suggesting the possibility of advertising "summer vacation tours aloft." The summer temperature, however, was found to be a mere twenty-five degrees below zero. Thermometer tests have shown winter temperatures of more than a hundred degrees below.

Then came a second group of University of Alaska students, in 1948. They were Walter Gonnason, Charles Piper and John McCall, fifteenth, sixteenth and seventeenth wayfarers to place footprints on the top of the continent in the 1940's.

Plane flights over the summit, beginning in the early '30's, soon became a matter of easy accomplishment. Washburn's story of his flight, from Fairbanks of course, over the mountain to obtain pictures in 1936, as published in the National Geographic Magazine for July, 1938, is a tale well told and well worth reading. Fifteen of the marvelous photos he secured of Denali, from all sides, vividly illustrate the article.

Thus far, all successful ascents of the Great Dome had been made from the eastern approach, by way of the Muldrow Glacier. After thinking the matter over for a period of fifteen years, Denali's closest friend, Bradford Washburn, decided to attempt the untrod western facade by way of the Kahiltna Glacier. The University of Denver, the University of Alaska and

his own institution, the Boston Museum of Science, joined him in this ambition, with concrete assistance that was to prove indispensable. Dr. Terris Moore, the flying president of the University of Alaska, captained the ferry service that was to bring back the eight members of the party, one by one, from a landing strip 7,650 feet high, within easy striking distance of the west face. The Tenth Rescue Squadron of the Air Force also provided essential air support.

The lowest summer temperature encountered by Washburn on this, his third time up, was two below zero, which actually is an unusually warm reception on the upper ramparts of Denali. The difficult part of the climb, Washburn reported, was from 15,000 to 17,200 feet. For a third of a mile the advance party had to shovel through waist-deep snow. Thereafter the party chopped steps up an icy fifty-foot incline, setting eight hundred feet of rope as they worked up. The first trip up the slope took four hours; the second, with the aid of ropes, only forty-five minutes. At times the fog was so thick, Washburn said, the party had to use instruments on the ascent.

THE advance party of three men, including Washburn, of course, reached the now familiar summit on July 10, too late to salute the Fourth but still in time to do high altitude nuclear research. The remaining five members of the party straggled up to the 20,269-foot-high parade ground on July 13 and 14. The western face is not afflicted with bad crevasses nor danger of avalanches, and is therefore safer than the eastern approach for trained climbers.

Washburn's three scientific aims were accomplished. These were to gather additional data for a map of McKinley under construction at the Boston Museum, to secure a complete photographic record of the west face, and to conduct a thorough geological survey of the area. These maneuvers actually completed the exploration of Denali, Washburn indicated. The inference is that subsequent climbers will be doing the hike "just for fun."

There were two such parties in the same season, 1952, both using the well-trod eastern approach. One group was led by Captain William D. Hackett of Fort Richardson, and the other consisted of expert Mexican mountaineers under Senor Eduardo de Maria Campos. After climbing Popocatepetl, 17,887 feet, Citlaltepētēl, 18,701 feet, and

Iztaccihuatl, 17,343 feet—all Indian names—they felt they were entitled to challenge a mountain with a simple name like Denali. Their secondary aim was to decorate the summit with the Mexican and American flags, and the flag of the Mexican Red Cross, under whose auspices the group was formed.

A curious news story bobbed up during Alaska's last election campaign, but it should be taken with the proverbial grain of salt. According to the news item, "Enthusiastic Republicans carried a 'Bob Reeve for Delegate' poster on July 12 (1952) to the very top of Mount McKinley to preside in lonely splendor over the top of the North American continent. The campaign poster, signed by the noted aviator Reeve and other prominent GOP men, was hung on a bamboo rod atop the 20,269-foot mountain by Ernest Baumann, an ardent Reeve supporter. Across the face of the poster, in bold letters, Reeve wrote: 'Carried to the summit by enterprising Republicans.'"

True or not, it makes a good story. Reeve was, however, defeated in the campaign by the incumbent Democrat, Delegate Bob Bartlett.

July of last summer found the tenth group of men sojourning briefly on the ice-clad summit of the High One. They were Fritz Lippman of San Francisco and Tom Steinburn and David Collins of Seattle. For Lippman, who had been in one of the defeated parties in 1952, this was a workout for an Asiatic mountain monster he hopes to conquer next summer.

It was anything but fun, according to their reports. They experienced rain at the lower levels, fog higher up, then intense heat from the sun while the air temperature was below freezing. A fourth member of their party, Keith Hart of Fairbanks, was a victim of sunstroke three thousand feet short of the summit. Avalanches and earthquakes threatened their lives. Lippman and Steinburn had birthdays during the ascent, but they didn't bother to celebrate.

Back at Wonder Lake, glad it was over, they got their first clear view of the mountain on which they had spent thirty-six days in snow and ice and foul weather.

There are mountains higher than Denali, and mountains still unclimbed, but the challenge of the High One is only a little less formidable for the few human voices that have been heard on its summit, and succeeding generations of mountaineers will long to leave their footprints on Denali. ▲

The Seventy-Mile Kid

By Grant H. Pearson



The Indians called it Denali, "home of the sun," and later the white men named it Mount McKinley. The tallest peak on the continent, ice-clad and beautiful, it is forbiddingly rugged and to climb it one must be as tough as the mountain.

BACK in 1925, when I was a cheechako in the Northland, I stood one day looking at a high mountain in the distance, looming disdainful and proud.

"What is its name?" I asked a sourdough.

"The natives called it Denali," he replied, "and later the white man

gave it the name of Mount McKinley."

"Has it ever been climbed?" I asked.

"Yes," answered the old-timer, "the Seventy-Mile Kid and three others climbed it in 1913."

In its first years there were few funds for development of the new national park, and many tourists found accommodations too rugged for their taste. The photo below shows the Savage River Camp after a wagon road made it more accessible.

"It's a beautiful mountain," I said, "and before I leave Alaska I'm going to get a closer look at it."

"Oh," said the sourdough, "every young fellow who comes up here wants to climb that mountain, but believe me, it's a man-sized job. I heard the Seventy-Mile Kid tell about his climb, and he's a vigorous, robust sourdough. He said it's a rough and rugged mountain and to climb it you've got to be as tough as it is."

In the months that followed I heard a lot about Harry Karstens, the "Seventy-Mile Kid," and it was my good fortune to start in as a ranger in Mount McKinley National Park at the time he was its superintendent.

The Kid came to the Klondike in 1897, when he was only seventeen



years old, earning his expenses for the trip by back-packing supplies over the famous Chilkoot Pass. He was a healthy, rugged youngster in those days. He got busy pioneering with a dog team and had such an adventurous career in the Northland that he was soon known in all the early mining camps as a hard, tough outdoor man. He mined in the Klondike and in the Seventy-Mile River country, and it was there that he gained the nickname which has stuck all these years.

It was in the Seventy-Mile country that the Kid experienced the closest call of his career. He was carrying his own camping outfit with him, as there were no cabins or roadhouses along his route.

One night he was awakened suddenly by a bright light and found his tent on fire. He'd been asleep in his



Fritz Nyberg

Park rangers on duty traversed nature's own domain on unmarked trails where man had never been. The photo above was taken near Polychrome Pass in 1923.



Fritz Nyberg

Hardier tourists took pack-train trips into the wilderness of the new park. The above photo was taken on a trip to Copper Mountain, now Mount Eielson, in 1923.

underwear in a moosehide sleeping bag, and that suit of underwear was all that he managed to save.

Thirty miles from replacements, the mercury at forty below, and nothing on but a suit of underwear! Luckily he had several canvas tarps on his sled. He tore them up and fashioned clothes, paying no particular attention to the latest Paris styles, and in canvas clothing he mushed his dogs thirty miles for supplies. Wrapped in layers of canvas, he managed to run alongside his dog sled most of the way to keep from turning into an icicle.

"One thing in my favor," he said, "I had a good suit of underwear!"

Later, after mining in the Seventy-Mile country, he was one of a small group of men who laid out the townsite of Eagle, on the Yukon River. But he wasn't so much interested in gold mining as he was in carrying mail,

Johnson-Brennan trophy Dall Sheep ram at the scene of the kill high in the Alaska Range in 1950.





"It's a beautiful mountain and before I leave Alaska I'm going to get a closer look at it," I said when I came to Alaska in 1925. Later, in 1932, I was on the first expedition to ascend both the North and South peaks of mighty McKinley.

mushing dogs and acting as a guide for big-game hunters.

It was the Kid and his partner, Charlie McGonagall, who broke the first trail with a dog team from Fairbanks to salt water at Valdez with the U. S. mail. He told me about some of those trips. When he could get a pay passenger on those mail runs it increased his revenue, although it often caused him much extra grief. On one of those trips he had to snowshoe on the gee-pole the entire way, more than three hundred miles, carrying a complete camp outfit consisting of a

tent, stove and trail food for himself, his passenger and the dogs.

When it came time to pitch camp, which was after dark, the passenger made no effort to help him.

"I was so hungry I could have eaten the frying pan," he told me, "but I cooked for my passenger first. After that fellow had stowed away about a dozen hot cakes and showed no signs of reaching a limit I said, 'Now brother, you watch me eat! I can't stand this any longer.'"

The Kid never hesitated to speak frankly and was known for directness.

Harry Karstens, at right in the photo below, one of the first men to enter the Mount McKinley area and to climb the superlative peak, was first superintendent of the new national park and, during its earliest years, its entire protective force.

Fritz Nyberg



During the gold stampede to the Kantishna in 1905 and '06, it was the Kid and his partner again who operated a private mail service between Fairbanks and the new camp. They charged twenty-five cents a letter, and the miners were glad to pay it.

The Kid was as much at home with a river boat or pack horses as he was with a dog team, so in 1906, when the hunter-naturalist Charles Sheldon wanted a guide to hunt for trophies and study the Dall sheep of Alaska, it wasn't surprising that everyone in Fairbanks recommended the Kid as an assistant. Sheldon chose to work on the northern slopes of the Alaska range near Denali—Mount McKinley. Jack Hayden was engaged as packer.

They obtained five horses and traveled to the head of navigation on the Kantishna River. There they unloaded their outfit, packed their stock and skirted the Alaska Range to the westward. Failing to find sheep, the Kid led the party to the foot of Mount McKinley and in an eastern direction, where the Dall sheep and Toklat Grizzly bears were plentiful. They traveled over virgin country which had never before heard the echo of a horse's hoof or a man's voice.

THEY spent two months in the wilderness with Sheldon. Then, when Sheldon decided to return and spend an entire year in the same area to complete his studies of the Dall sheep and Toklat Grizzly, he chose the Kid again to assist him.

This work was right up Karsten's alley, so to speak. He never was one to look for a soft job, and this one wasn't soft. After traveling in a poling boat as far as possible up the Bearpaw River, they packed their horses and proceeded to the location Sheldon had picked out the summer before. They had a year's supply of food and equipment to pack in and a cabin to build in preparation for winter. A big assignment!

They had intended to winter their horses at their main cabin on the Toklat River, but the plan did not work because there wasn't enough wild hay nearby. The Kid returned with the horses to the deserted Kantishna mining town of Glacier City, where he hoped he could cut enough hay to winter them there. Unable to find enough, he took the horses cross-country to Fairbanks.

He rejoined Sheldon in November at their cabin on the Toklat River, this time bringing along five sled dogs and two sleds. He spent the winter with Sheldon helping him get trophies and making himself indispensable all the way around. In March he made the 250-mile round-trip to Fairbanks with a dog team and a load of trophies.

Sheldon later declared the Kid was the best outdoor man he'd ever been

out with, and not only that, he was the best dog musher in the North.

The Seventy-Mile Kid was as free as the north winds, and certainly as versatile. He operated boats on most of the rivers. He mined in the Iditarod and other gold camps. In between times he operated a brokerage business, and for awhile he was even a bill collector in Fairbanks.

The Kid was known as a tough bill collector, too, but my old friend Fannie Quigley told me about a time when a merchant presented the Kid with a bill to collect from Waterfront Brown.



Fritz Nyberg

The Kid moved park headquarters to an abandoned railroad construction camp.



Fritz Nyberg

Harry Karstens, the Seventy-Mile Kid, shown above as he looked in 1926, was called the best outdoor man and dog musher in the North. Never a hundred percent office man, he was always happiest on a trail with dogs or pack horses.

Waterfront Brown was a notorious character in the early days of Fairbanks and, though a bill collector himself, he often forgot to pay his own bills.

So the Kid went out to collect from Waterfront Brown. His fee for the job would be fifty per cent. Fannie said the Kid called on Waterfront Brown and went through the routine that had proved successful in most cases. This time, however, instead of collecting the bill he collected a beautiful pair of black eyes. Not much profit in that deal.

In 1913, when Episcopal Archdeacon Hudson Stuck decided to attempt a climb of Mount McKinley, he chose the Seventy-Mile Kid as co-leader of the expedition. It was a fortunate choice. The Kid knew the country as if it were his own back yard. In 1910 his old trail partner, Charlie McGonagall, had located the pass that gives access to the Muldrow Glacier at 6,000 feet, and McGonagall had been a member of the famous "Sourdough

Party" that climbed the summit of Mount McKinley's North Peak in 1910. The Kid was also a friend to the other members of the Sourdough Party, all of whom were old-time Alaskans.

Incidentally, in 1912 the Belmore Browne party had made an attempt to climb McKinley, but they did not claim to have reached the summit. A storm caught them somewhere on or near the top and forced them to retreat.

All the diversified experience the Kid had gathered and his persistent yearning for further adventure made him ready and eager for this experience. He agreed to accompany the expedition, which also included Robert Tatum and a half-Indian boy named Walter Harper.

Archdeacon Hudson Stuck depended upon the Kid to get all the supplies to the mountain and to act as his right-hand man. In the fall of 1912 the Kid used his launch and poling boat to take some of the supplies and cache them at Diamond City on the Bearpaw River.

Caribou are among the animals protected in Mount McKinley National Park.

Smithsonian Institution



In February, 1913, he checked over the equipment which had arrived from the States and found that part of it was missing and part was unfit for use. He had ice axes and crampons made and selected the clothing and foot gear for the undertaking.

In the middle of March they left Fairbanks with two dog teams loaded with supplies. After reaching their base camp on Clearwater Creek they returned to Diamond City and brought up the rest of their supplies.

While they were at their base camp the Kid prepared his own brand of homemade pemmican. Pemmican is a meat food made by boiling down meat, adding other ingredients and, when it is thick, rolling it into balls. The Kid used caribou and sheep meat. He told me it was their main food on the mountain and they never lost their appetite for it.

"It has lots of nourishment," he said. "The country's full of fresh meat to make your own, so why bring along fancy Outside pemmican?"

The earthquake of 1912 which was caused by the eruption of Mount Katmai down on the Alaska Peninsula had played havoc with Mount McKinley and with the route the party had to follow across Muldrow Glacier. Many of the natural snow bridges across the crevasses had collapsed. The Kid's ingenuity and know-how came to the rescue. They cut snow blocks and made snow bridges across many of the crevasses, which could not otherwise be crossed. A tough job, I know, because I've cut them myself for the same purpose. It's a perilous undertaking because your next step can easily be the last one, and plenty of nerve and endurance are good helpmates.

THE biggest blow came when their cache of supplies caught fire and valuable mountain-climbing equipment was lost. But again the Kid's never-say-die spirit came to the rescue. He set to work to make the best of a bad situation. Their mountain tent and another small tent in which to read instruments were gone. The Kid made a mountain tent out of sled tarps. It was a six-by-seven-foot tent with three-foot, six-inch side walls. The Kid sewed the canvas entirely by hand, and he said it stood through the terrific storms they later encountered. The calamity also shortened their food supply, and they had to depend more on the homemade pemmican.

The earthquake had split the northeast ridge all to pieces, and where the other parties had had a steep, narrow but smooth ridge to climb, the Kid's party had a jumble of blocks and snow that made it extremely perilous. He described it as like carving a staircase three miles long, the only difference being that if you slipped you'd plunge thousands of feet to the glacier below.

Perseverance and back-breaking work finally got them to 15,000 feet, where they entered the upper glacier basin and, at last, success.

The Kid said one of the happiest moments of the entire trip was when they saw the pole which the old Sourdough Party of 1910 had claimed to have left on top of the North Peak. The party of 1912 had failed to see the pole.

The Hudson Stuck party is credited with being the first to climb to the summit of Mount McKinley, highest mountain on the North American continent.

"Without Harry Karsten's leadership and ability," said Archdeacon Hudson Stuck, "we would not have succeeded."

When the Archdeacon was recommending names for the different features of the mountain he suggested that the northeast ridge be named in honor of the Kid, and it is now officially known as Karsten's Ridge.

For the next eight years the Kid was in business in Fairbanks, but he made an occasional dog-team trip to the outlying districts and his heart was always in the hills—especially in the mighty Alaska Range.

Charles Sheldon had been so impressed with the wildlife that abounds in this area and with the grandeur and magnitude of the Alaska Range that he lost no time in publicizing its wonders. It was through his efforts and those of other conservationists that a portion of this vast Alaska Range was set aside from the public domain. In 1917, Congress passed a bill setting aside 2,645 square miles of the Alaska Range as a National Park.

So one of our great National Parks, second in size only to the Yellowstone, was created for the American people. Here they can visit and enjoy a magnificent country preserved in its natural state, where distinctive forms of wildlife are protected.

NOT until April, 1921, was money made available for a protective force. And of whom did the protective force consist? You guessed it—the Seventy-Mile Kid. Harry Karstens was appointed the first superintendent of Mount McKinley National Park.

His headquarters were at Nenana, sixty miles from the park, and he was not only the superintendent but the entire protective force as well. He was, of course, the logical man for the position, having been one of the first to explore the area, knowing it better, perhaps, than any other man, and having been a member of the first party credited with conquering the summit of mighty Mount McKinley.

Appropriations were extremely inadequate in those days for any development, but the Kid did his best with

what he had. The Alaska Railroad, which connects the park with steamship service to the States, was completed in 1923. Then the Kid moved to McKinley Park Station and established his headquarters in an abandoned railroad construction camp two miles east of the park boundary.

During the time The Alaska Railroad was under construction there were many market hunters poaching on the Dall sheep which were plentiful in the park. In the fall they would kill their sheep and haul them by dog team to the small settlements where they were sold. The Kid soon put a crimp in their racket. He was absolutely fearless, and I am sure that no one, friend or stranger, escaped arrest if he caught him violating the law.

For two years he carried on this important assignment alone. Then finally money was provided for a clerk-ranger and he had more time for patrols and inspection trips, which must have been very gratifying to him.

That summer the National Park Service sent a photographer into the Territory. To be sure that Government officials got photographs showing the extraordinary beauty of the park, the Kid himself acted as guide, and they made the trip to the base of Mount McKinley with saddle and pack horses. It was an arduous and painstaking trip of seven days' duration but especially important because it was primarily to prove that the area was worth further development so that it could take its place among the other national parks. I know that was the Kid's objective, and no task was too difficult if it would help him prove the point.

HE KNEW, of course, that the highest mountain in North America was all that he claimed for it, but equally important for its rugged beauty is the Alaska Range that runs for a hundred miles through the park, the terrain with its season-changing colors, the score of other peaks more than 10,000 feet in elevation. Mount McKinley National Park has a rugged and varied beauty that no other park can claim, and it was up to the Kid to prove that it merited development.

At McKinley Park Station there were a number of cabins and two trading posts. One of them was operated by Old-timer Maurice Marino, and the other by Duke Stubbs, who also operated a fox farm. This was during the prohibition era, and there were moonshiners and bootleggers and two of "the gals" doing business there. The old-timers had been getting their mountain sheep in the area, and they weren't happy about the new laws prohibiting hunting.

But now the park was making progress. The Kid obtained horses which were used during the summer for patrol purposes. For winter patrols he now had several dog teams. It must have been encouraging to see some of his ideas materialize through his hopes and efforts.

In 1922 a summer trail was located and staked through the park to the Kantishna mining district, which was ninety-two miles from the railroad. The Alaska Road Commission erected shelter tents equipped with stoves set approximately a day's walk apart. It took the average traveler four days to make the ninety-two-mile trip. Most of them traveling the trail did it on food they packed on their backs.

The early trappers and prospectors cared little how much wild meat they wasted, and rangers often found sheep carcasses with only the loin or hind quarters taken. This wantonness worried the Kid, and he did everything possible to stop it. He had no money for ranger patrol cabins, so the rangers spent their spare time building them. That, of course, was before we knew anything about the forty-hour week.

In 1924 the first road construction work was started. The plan was to build a ninety-two-mile road to terminate at the Kantishna. It was to be a narrow gravel road suitable for automobile travel—another substantial step in the progress of the park. A mile and a half of the road was completed that fall, a cause for rejoicing.

But that same year another incident happened which caused no rejoicing and which left a scar on the park terrain that only many years of tree-growth will remove. The story is that one of the boys decided to burn down a moonshiner's cabin during his absence. The cabin burned, all right, and so did more than a thousand acres of good forest land. It was a serious blow, not only because good forest is scarce in the park but also because the charred area is the first sight a tourist sees upon debarking from the train at McKinley Park Station.

AND there was more grief with moonshiners. Shortly afterwards another moonshiner was shot and killed at McKinley Park Station by a U. S. marshal when prohibitioners

made a raid on one of their cabins.

So in the fall of 1925, because of the undesirable situation at McKinley Park Station, the Kid decided to move the park headquarters. He moved to Mile 2 on the park road, a pleasant place sheltered in a forest of spruce and quaking aspens. There were no funds for the moving project. The Kid salvaged three one-room cabins at the old headquarters, tore them down and re-erected them at the new site. All the work was done by himself, the chief ranger, the park clerk and two rangers.

The summer of 1925 saw the first tourist camp established. It consisted of a few tents which were set up by another old-timer, Dan Kennedy. Bordering the Savage River, it was named the Savage River Camp. It was twelve miles from the railroad station, and tourists were taken out by saddle horses.

That later proved to be a popular camp, mainly because from it Mount McKinley was visible. If the mountain was free of clouds, or even partly free, one was assured of seeing it from the Savage River Camp. But twelve-mile saddle-horse trips were much too rugged for most of the tourists, so Dan didn't fare so well on the venture. He sold out to Bob Sheldon and Jim Galen, two old-time Alaskans who were then operating an automobile transportation company from Valdez to Fairbanks.

THAT fall the road was completed to the Savage River Camp, and Bob and Jim laid big plans for the building of a comfortable tourist camp. They brought in modern automobiles and had a fine string of saddle and pack horses. The horses became more and more popular with the hardier tourists, who took trips to the base of Mount McKinley.

The Kid never was a hundred per cent office man but the type who would much rather get out into the park wilderness. On one of the trips I made with him we camped at the foot of the white Alaska Range and got caught in a mighty snowstorm with our horse. But we hit pay when we explored for fish. Lakes and streams were abundant with fish wherever we went. During the winter

he made inspection trips by dog team to select sites for ranger patrol cabins. He helped us build some of them, too.

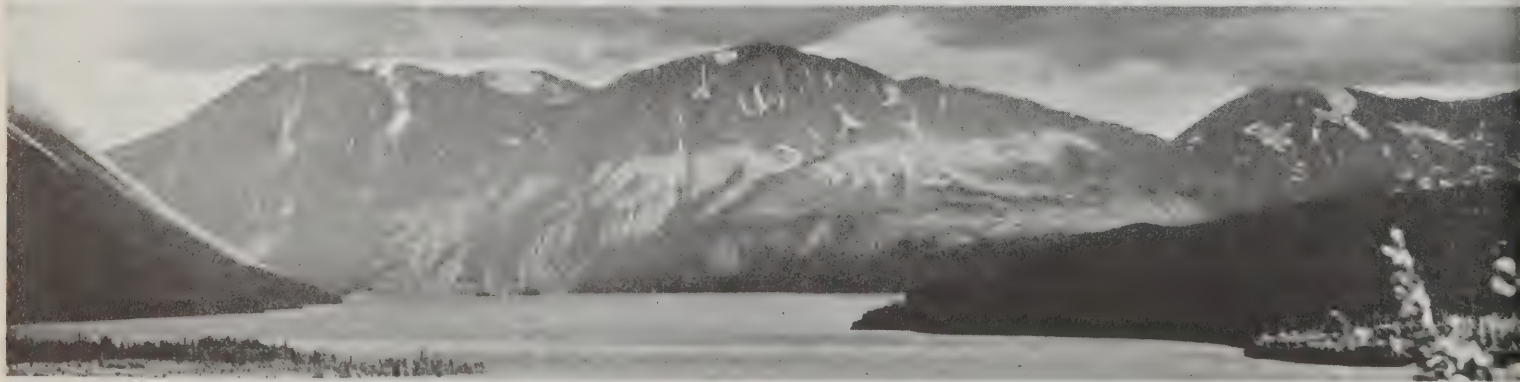
In 1928 the new road reached Mile 40 inside the park, and more and more tourists were coming in. I think it was getting a little too tame for the Kid. It was losing its untamed wilderness atmosphere. So I wasn't surprised when Karstens resigned as superintendent in the fall of 1928, moved to Fairbanks and went into business.

I guess it was just as well he left, because I don't believe he would have been happy here after the automobile road was completed to the Kantishna and the present luxurious tourist hotel was built. Now, as the years roll by, more and more tourists visit the park and some days during the summer as many as twenty airplanes land on the McKinley Park air strip. Now a snow-tractor driver replaces the expert dog musher. But to the Kid the park was a wonderful wilderness area, and he was happiest when he was on the trail with a dog team or saddle and pack horses.

His home in the park was in the shadow of North America's greatest and highest mountain, an area in its primeval state which he grew to love. I'm sure he looked forward with mixed feelings to the opening of the first highway. He had worked hard to make the park develop and grow, but that very development took away much of the charm for him. And the rest of us who traversed the unmarked trails on patrol duty with our ever-faithful huskies will always look back with nostalgia to those early days and feel an unspeakable thrill that we were privileged to place foot on nature's own domain ahead of other human beings.

True, the Kid doesn't live here in the park any more, and it's doubtful whether he'll ever hit the trail in this area again. But he will never be forgotten in the history of Mount McKinley National Park. He was one of Alaska's true pioneers, and to him goes the credit for taking the park through its early childhood stages.

He has an everlasting memorial here in Karsten's Ridge, a rough and rugged ridge on Mount McKinley. I'll bet he wants it that way. He wouldn't want a smooth surface named after him.



Beautiful country abounding with wild life. This is Alaska. — Lu Liston

The Lady was a Trailblazer

BY ROBERT N. DeARMOND

ISABELLE PASS, where the Richardson Highway climbs to an elevation of 3,310 feet to cross the towering Alaska Range, was named many years ago to honor a little lady who was a pioneer of the pioneers.

She was Isabelle Cleary Barnette, and she was the first white woman to arrive at the site of the present city of Fairbanks. She was, in fact, one of the founders of the town, and her husband was its first mayor.

Mrs. Barnette was also the first white woman to trek across the mountain pass which today bears her name. Moreover, she made that trail-blazing journey in the early spring of 1902, when only a few men had ventured over the route.

It was on July 12, 1862, at Saint Paul, Minnesota, that Isabelle joined the numerous family of Irish-born Peter and Nora Quesley Cleary, but she does not enter our story until the summer of 1901. By that time the big gold rush was four years old, the country was swarming with prospectors, and a great many women had reached Yukon Territory and the interior of Alaska.

To Build A Post

But in 1901 the upper Tanana River country was still unsettled by whites. Explorers had given it a hasty once-over, and the prospectors were just beginning to examine it. And it was to the upper Tanana that Captain Elbridge T. Barnette was heading that summer, accompanied by his wife and a stock of trade goods. He planned to open a trading post, and his mind seems to have been fixed on furs rather than gold.

At Saint Michael, Captain Barnette chartered the river steamer *Lavelle Young*, Captain Charles Adams, to carry him and his goods to the head of navigation on the Tanana River. The steamer chuffed up the Yukon and then up the Tanana as far as Bates Rapids, where low water brought her to a stop.

Captain Barnette was nearly two hundred miles short of the place he had hoped to reach, but there was little he could do about it. The steamer dropped back down the river and nosed into the Chena Slough, where the Barnettes' trade goods and other possessions were unloaded on the bank.

A small house was quickly erected for Captain and Mrs. Barnette, and a log building was put together for a store. They didn't know it then but they were starting the town of Fairbanks.

It was a lonesome looking country in which they had landed, and apparently without people. Soon, however, Felix Pedro dropped in from his prospecting

camp to tell them he had found good indications of gold in the vicinity. Other prospectors and a few Indians came by, and the post did a little trade.

Later in the year Dan McCarty, who had quit his job on the *Lavelle Young* to stay at the post, went out to Valdez to meet Mrs. Barnette's brother, Frank Cleary. The two men made the trip

In 1901 there was no Fairbanks, and few persons had crossed the Alaska Range into the Interior. The extremely scenic route, later known as the Richardson Trail, became Alaska's first highway. Today it is black-topped all the way from Valdez to Fairbanks.

James Bolog



back over the winter trail to the Barnette post in thirty-five days.

It was on March 10, 1902, that Captain and Mrs. Barnette set out for Valdez. Each drove a dog team, and the sleds were loaded with furs taken in trade during the winter. So far as available reports indicate, they had no companions, but we have no adequate account of what must have been an epic journey. At that time there were no roadhouses between the Barnette post on the Chena and Gulkana, and probably few from Gulkana to Valdez.

Despite what must have been, at the very least, a rugged experience, when the Barnettes arrived in Valdez on April 9, one of the local newspapers reported

that they "stood the trip well and look more as if they had been on a pleasure trip than mushing several hundred miles over the mountains and glaciers with the thermometer from ten above to forty below."

In Valdez the Barnettes boarded the steamer *Excelsior* for San Francisco. On the following September 7 they arrived back at their trading post on the Chena, this time aboard their own vessel, the *Isabelle*, built in Saint Michael and loaded with more trade goods. In the meantime, during that busy summer of 1902, Felix Pedro and others had made gold discoveries and the future of the camp was assured.

Captain and Mrs. Barnette made another long dog-sled journey the following winter, this time from Fairbanks to Whitehorse, Yukon Territory, where they caught the train and arrived in

Skagway on April 13. "Mrs. Barnette is a beautiful little woman who has stood the trip admirably," commented the *Daily Alaskan* in Skagway.

Just who named Isabelle Pass, and when, has not been determined. Perhaps it was Major (later General) Wilds P. Richardson, the first chairman of the Alaska Road Commission and the man for whom the highway was named. In his first report, dated November 1, 1905, Richardson twice used the name Isabelle Pass.

In 1910 Captain and Mrs. Barnette left Fairbanks with their two young daughters to make their home in Los Angeles. Not long afterward the Washington-Alaska Bank, in which Barnette

had been heavily interested, failed and closed its doors in Fairbanks. The details of this unfortunate affair are too many and complicated to relate here, but Captain Barnette, with his wife, did rush north to try to save the bank.

It was an extraordinarily harrowing mid-winter trip. They caught the liner *Victoria* out of Seattle on February 1, 1911, and were shipwrecked twice on the voyage. First the steamer poked her nose ashore near Cape Mudge in British Columbia, and it was no help to passenger morale that the *Cottage City*, wrecked just a week earlier and a total loss, was only a short distance away.

But the *Victoria* floated off at high tide the following day, and all went well until February 7, when she was approaching Cordova. During a heavy snow squall she grounded on Hinchinbrook Island and was seriously dam-

aged. The *Bertha*, nearby, took off the passengers and landed them in Cordova.

Times Change

There had been many changes since the Barnettes had made their first trip over Isabelle Pass just ten years previously. Now they rode a Copper River and Northwestern train from Cordova to Chitina, and there boarded horse-drawn sleds of the Orr Stage Line for the remainder of the journey.

Comfortable roadhouses were located along the trail at convenient distances, but despite all these improvements it could be a rugged trip, and this one was. They ran into a howling blizzard while crossing the Alaska Range. There were deep drifts of snow in which the horses bogged down. In other places, ice underlaid the snow and the horses

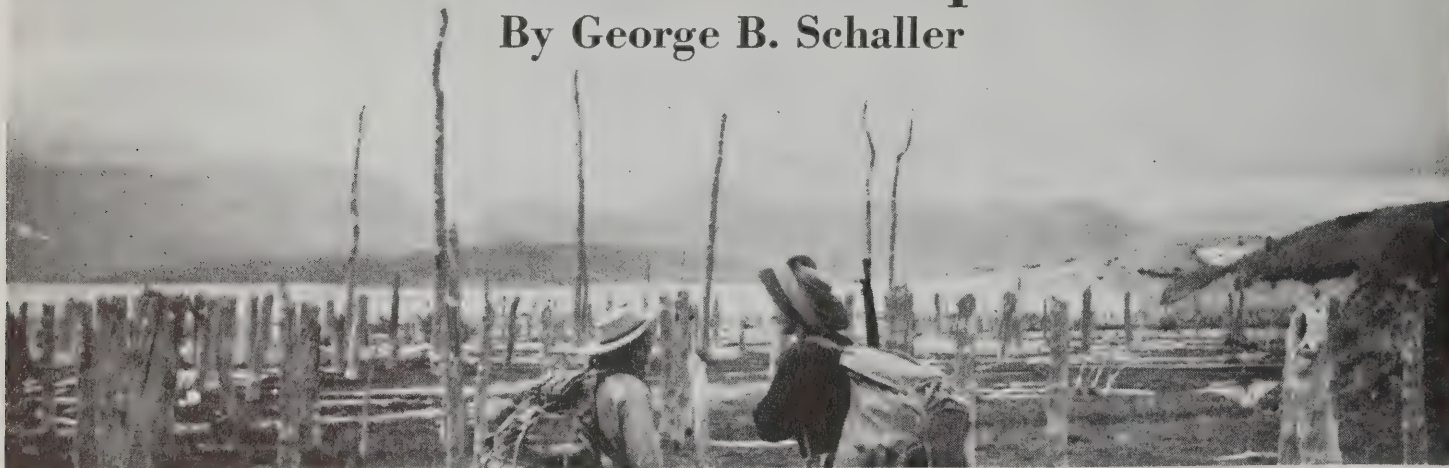
went down time after time. They did not reach Fairbanks until February 17.

The Barnettes did not remain long in Fairbanks. They arrived back in Cordova on April 4 after what seems to have been an uneventful trip. So far as is known, this was Isabelle Barnette's last journey over the historic trail she helped to open.

Captain Barnette subsequently engaged in oil drilling in Montana and mining in Arizona and Mexico. Mrs. Barnette lived for a time in Los Angeles and then for many years at the Plaza Hotel in San Francisco. The last year or so of her life she spent in the State Hospital in Agnew, California. She had just passed eighty when she died on September 8, 1942, a courageous and venturesome pioneer of Alaska who richly deserved the perpetuation of her name on high, scenic Isabelle Pass. ▲

When the Earth Exploded

By George B. Schaller



Morton Wood

The terrible eruption of Mount Katmai on June 6, 1912, created a lifeless valley now called the Valley of Ten Thousand Smokes. Ginny and Morton Wood, above, are inspecting trees which were sheared off by the hot sand. Erosion has exposed the stumps.

National Park Service biologist, Victor H. Cahalane, made good use of our spring in the valley. The pipe comes from an ash-covered glacier. We constructed a reservoir and had fresh, cold water at all times.



KATMAI National Monument in Alaska is many things, but mainly it is a land of contrasts—a land of heaven and hell, a land of life and death. When Mount Katmai erupted, in 1912, covering a large area with sand and ash, it left nothing but death.

It left a land of stillness, immense and unbroken. It left the earth a corpse, dead except for the beat of the distant rhythm as winds blew across the sands. Nothing could be seen but rocks, sand and steam rising in columns like twisted gargoyles from a valley. There was a crater, huge and silent, hidden in the clouds—a crater larger than the famous Crater Lake in Oregon.

But now Katmai National Monument and the Valley of Ten Thousand Smokes is also a land of life. A land of deep, clear lakes teeming with fish, and green forests fingering their way up the mountain slopes. Of Brown bears catching salmon in the rivers, and of ptarmigan flushing from the flower-covered, tundra meadows. It is a land of sound and life and beauty.

Winds buffeted our green tandem-wheel Pacer airplane as the mountains of the Aleutian Range closed in on us

on our way to Mount Katmai and the Valley of Ten Thousand Smokes. It was the summer of 1954.

Victor H. Cahalane, biologist for the National Park Service, and I, his assistant, had spent more than a month in Katmai National Monument studying the vegetation and wildlife. Now we planned to spend a week at the camp of two volcanologists in the Valley of Ten Thousand Smokes to study the come-back of the vegetation after its complete destruction by the 1912 eruption of Mount Katmai.

At the time of the eruption, the Katmai area was a wild and unknown country, merely a name on the map. Today a swift plane ride will take the tourist from Anchorage to King Salmon just outside the Monument. From there Northern Consolidated Airlines will take the traveler to any one of several fishing camps. But people seldom visit the Valley of Ten Thousand Smokes. Only a few individuals, mainly geologists, have spent any length of time in the valley.

From our plane I had an unsurpassed view of the country around me. On my right, Mount Katoliat swept

upward and towered above me, ending in a series of pinnacles. A whole range of glacier-covered volcanoes, plainly visible for a hundred miles, extended southward as part of the Aleutian chain of volcanoes. Close by smoked Martin Volcano, sending its white cloud of steam thousands of feet into the air.

Ahead lay the broad valley of the Savonoski River, giving ready passage to Cook Inlet. The jagged peaks surrounding Katmai crater jutted sharply into the horizon, beyond which stretched the shimmering waters of Shelikof Strait with Kodiak Island a gray hump in the distance.

Behind me lay the coastal plain extending to the Bering Sea. To the north stretched a great region of lake and mountain country, heavily covered with forest. I doubt whether any region in Alaska surpasses this one in the grandeur of its setting. It is a wild and beautiful country.

A series of large, clear lakes, reminiscent of the famous Finger Lakes in New York, lie there, shut in on all sides by tall, forest-clad mountains. The fishing in these lakes—Grosvenor, Coville, Brooks and Naknek—makes the region an angler's paradise. These waters are alive with giant rainbow trout, lake trout, grayling and pike. Sockeye salmon climb by the thousands past the falls at Brooks River, one of the most famous fishing streams in North America.

THE lakes and ponds are the abode of countless waterfowl. Moose browse in the willow and alder shrubs. The tracks of fox, lynx, and wolf are a daily sight along the beaches. Of all the large animals, the giant Brown bears are the most abundant and interesting, making ideal camera studies for the photographer.

"There's the mouth of the Valley now," pointed Woody, our pilot. "The smokes are only a few miles further."

As I watched, the green of the country suddenly changed to a sombre brown and yellow. The change had been so abrupt that it took me a while to realize we had entered the Valley of Ten Thousand Smokes. The country appeared to be dead.

Richard Ward, a park ranger who had joined our expedition, tapped my shoulder. "See the smokes over there?"

On the right, five thin wisps of steam rose from the valley floor and trailed off in the wind. I looked at the dead country below me, at the steam curling upward, and thought of the catastrophe that brought this region into being.

Before 1912 a beautiful unnamed valley stretched down from Katmai Pass. Dense forests of poplar and birch and an occasional stand of spruce covered the valley, which in early June was just turning green after a long winter. Here and there straggled bands of caribou. Fish splashed in the Ukak River. It was a valley of peace and tranquillity.

Suddenly an earthquake shook the ground. It was the first sign of the tremendous subterranean forces which



Ace Williams

An entire range of glacier-covered volcanoes, plainly visible for a hundred miles, extends southward in the Aleutian chain. Martin Volcano, shown above, sends its white cloud of steam thousands of feet into the air. It is one of the active volcanoes.

were to split the valley asunder and initiate one of the greatest eruptions in historic times. Several quakes followed the first.

An unusually strong quake broke open the floor of the valley. Seething, white-hot, molten magma burst from the cracks. What a sight it would have been to watch the columns of liquid fire driven skyward for a hundred feet or more—to see the floods of lava pouring like molten viscera from the earth,

and to behold thousands upon thousands of smokes belch forth their gases.

It was a seething, swirling, red-hot flood that consumed every living thing in its path down the valley. For fifteen miles it continued downstream before it finally came to a stop. Thus the Valley of Ten Thousand Smokes was born.

Then the bowels of Mount Katmai began to rumble and heave. At one p.m. on June 6, 1912, Mount Katmai blew its top. For three days explosion followed

Only a few miles from the Valley of Ten Thousand Smokes lies a series of large, clear lakes, shut in on all sides by tall, forest-clad mountains. The camp below is on the shore of Grosvenor Lake, one of the lakes in the area that make it an angler's paradise.

Morton Wood





Morton Wood

Just a short trip from the desolate valley is one of America's most famous fishing streams, Brooks River. Sockeye salmon, above, climb the falls by the thousands.



Morton Wood

Mount Mageik, above, guards the head of the Lethe River, which drains the right arm of the valley. Lethe River is appropriately named for a mythical river in Hades.

Ash-covered glaciers snake down from the mountains into Knife Creek Valley. Knife Creek disappears into the hardened sandflow, then re-surfaces farther down the valley.



explosion. No one suspected the immensity of the crater formed by these eruptions. Geologists now believe that the whole mountain had slumped away and been swallowed into the bowels of the earth. Approximately two cubic miles of material were removed from the mountain. This is more than forty times the amount of material dug during the greatest excavation ever accomplished by man—the Panama Canal. And it took nature only three days.

The dimensions of the crater are such that mere figures convey little meaning. The width is three miles; the circumference 8.4 miles. The precipice from the lake to the highest point of the rim is 3,700 feet. If the crater were filled to the lowest notch of the rim with water, it would hold nine hundred billion gallons of water—enough to supply a city of six million people with water for more than four years. The world's tallest skyscraper, the Empire State Building with its 1,472 feet, would be rather insignificant in the crater. And, according to Dr. Robert F. Griggs, not even all the buildings of Greater New York—Brooklyn, the Bronx, Queens—would fill the crater.

THE first man to set eyes on this new wonder of the world was Dr. Robert F. Griggs, leader of the National Geographic Society expeditions to the area between 1916 and 1930. In his words: "The whole valley, as far as the eye could reach, was full of hundreds, no, thousands—literally tens of thousands—of smokes curling up from its fissured floor." Thus the valley received its name.

To the natives and the few whites living in such outlying villages as Katmai and Kodiak the eruption was a time of terror and suffering. The days were as dark as the nights, and hot ash covered their homes to a depth of several feet. But not a single person perished in the eruption. Mankind was lucky that the explosion did not occur in a populated region. A similar eruption of Mount Pelee in the West Indies killed 30,000 people.

Actually the valley occupied by the Ten Thousand Smokes has the form of a gigantic, heavy Y. The area enclosed between the two arms of the Y is occupied by the highland of Baked Mountain and Broken Mountain. Lethe River, named for the mythical river in Hades, drains the right arm, Knife Creek the left. Both streams meet and promptly disappear into the sandflow, only to reappear farther down to drain as the Ukak River into Naknek Lake.

As our plane dipped to the left I spotted two tents near the banks of Knife Creek. White flags marked the landing field, a stretch of level river bar. The plane bounced to a stop. Dr. Garnis Curtis and Jack Sheehan, both geologists, greeted us.

"You guys are pretty lucky. This is the first clear day we've had in the last two weeks," said Jack.

The Alaska Peninsula is a notorious stormbreeder, and the Katmai area has a particular reputation for bad weath-

er. Only the months of June and September are clear and sunny. Heavy clouds usually cover the Valley most of July and August. We had rain almost every day—cold, drizzling rain, driven before gusty winds that penetrated everything.

"Want anything to eat?" asked Jack. "We've got army hamburgers, army sausage patties, army . . ."

"No, thanks, not now," I interrupted him. I was too anxious to explore the surrounding country.

"Where are the smokes?" I wondered, looking around.

"There are only about a hundred smokes, or fumaroles as we call them, left in the whole Valley," explained Dr. Curtis. "The rest have died out. You can walk over and see the ones by the Lethe River tomorrow."

Immediately after storing our gear in the tent and watching our plane head back to home base, I set out to look at the country about me. The miles of devastation put me into a peculiar state of mind. It seemed that I was reliving in a pre-historical era—the time when the molten mass of the earth had just cooled and was lying sterile and lifeless, waiting for the first life to appear. Then again it seemed that this must be another planet, that such a place could not really exist on our earth. The quiet columns of vapor rising in the distance, the desolate valley, the encompassing mountains, the desperate stillness, except for the rushing waters of Knife Creek—all were so unreal.

I WALKED along the edge of Knife Creek, always careful to avoid the crumbling edges, remembering that these swift torrents may well bring death. Late in the summer of 1953, Dr. Werner Juhle, a geologist, disappeared in the Valley. Searchers found his pack on the banks of a narrow, turbulent stream. They never found his body. Presumably he had attempted to cross the stream and had drowned.

Arroyo-like channels crisscrossed the whole Valley. The effort of climbing in and out of these gullies, often fifty or more feet deep, was so wearisome that I was soon completely exhausted. At every step I sank to my ankles in sand, while new sand poured down from above, either burying my feet or carrying me down the hill.

I found life—a creeping willow hanging tenaciously to the shifting sands. This small plant, so tender yet so strong, fighting the natural forces which tried to crush it in this alien country, received all my admiration. Later I found more plants, about twenty different kinds in all—horsetails, fireweed, grasses, sedges, and mosses. All plants were small and stunted, growing scattered here and there, usually hidden in a protected spot.

The day was closing now, and I turned toward camp. Down below me I saw the tents in the blue shadows of the coming darkness. In the distance curling billows rose from the fumaroles, turned in the dying sunlight to shimmering gold. The snowy crests of



Morton Wood

Knife Creek is a narrow torrent which slices through the valley. I was careful on its crumbling edges, remembering that the swift flow has caused the death of others.



Kodiak, about eighty air miles from Mount Katmai, was covered to a depth of several feet by the hot ashes, shown above in 1912, terrifying the residents.

Water rushing in the Lethe River cut this deep gorge in the sand where it seemed impossible for life to exist. But I found plant life in almost unbelievable places.

Morton Wood





Morton Wood

The "smokes" in the valley are caused by fumaroles, holes and fissures in the earth through which steam escapes. In 1919 the temperature of the hottest fumarole was 1,200 degrees Fahrenheit. The hottest one today, shown above, is about 210 degrees.

the mountains glinted bright yellow.

Heavy rainclouds hugged the mountains the next morning as Victor Cahalane, Dick Ward and I set out for the Lethe River Valley to visit the fumaroles. Low clouds engulfed us as we reached the highland of Broken and Baked Mountains. After several hours of walking, we rested on the divide. The ground on which I sat was warm, and as the clouds swirled about me,

tinged with the faint odor of hydrogen sulfide and other foreign gases, I felt as if I were sitting in an inferno.

The clouds parted briefly and revealed the valley below. There, surrounded by a large crater ring, was a dome of lava about twelve hundred feet in diameter and two hundred feet high. To so unexpectedly run upon this confusion of broken blocks, heaped topsy-turvy over the surface and smok-

The dimensions of Mount Katmai's crater are fantastic. Not even all the buildings of Greater New York, Brooklyn, the Bronx and Queens, including the Empire State Building, would fill the immense hole. Below is the south rim seen from the air.

National Park Service



ing all over, took my breath away. This lava plug was the throat of Mount Novarupta, a new volcano which had arisen from the valley floor.

At the base of Baked Mountain we ran into the largest area of fumarole activity left in the Valley. Steam everywhere. In some cases the steam came from a large deep hole; in others there was no opening at all—the vapors simply rose through the sand. Some of the jets had narrow throats, while in others the steam poured from cavernous holes. In most of the fissures the vapors rose lazily in diffused clouds. But in other places the steam came out under pressure, emitting a low hissing sound.

Afraid to ruin the soles of our shoes, we tried to avoid the hottest areas. Even then the heat penetrated the soles as soon as we stood still. But the valley is not as hot as it used to be. The hottest fumarole today measures about 210° Fahrenheit.

In 1919 the temperature of the hottest fumarole was a fantastic 1,200° Fahrenheit. Lead dropped into its mouth melted rapidly. But the most astonishing thing was that when a stick of wood was thrust into the fumarole it instantly began to smoke and char. By jerking it quickly into the air, it burst into flame. Because the vapor from the fumarole is almost pure steam—in other words, water—a fire could be kindled by plunging a stick into water.

NO COLD lunch for us that day. We had all the comforts of home. We simply tied a tin can to the end of a rope and lowered it into the throat of the nearest fumarole. A few minutes later we pulled it out boiling hot and ready to eat. What a place! Here was a natural cook stove, and only a few yards away a refrigerator, a glacier, snaking down from the mountains above, where everything could be kept freezing cold till needed, and a place where we could get drinking water.

Around many of the fumaroles I noticed the beginning of an invasion of the hot soil by plant life—"blue-green" algae and moss. To us this invasion of the valley by these lowly plants presented the most fascinating scientific problem. If we could only work out the whole sequence of the returning living organisms, we would know a great deal more about the origin of life.

Accidentally scraping the crust away from the mouth of a fumarole, I uncovered a layer of mud daubed in an indescribable riot of colors. Picasso could not have achieved more striking effects than nature had done here. Sometimes the ground was black from iron sulfide. Grading through various shades of blue and gray, I found many hues of red, because of iron oxide. Round about were yellows and browns and sometimes greens. Again and again I exposed new layers of mud, never ceasing to marvel at the never-ending varieties of hues.

"We'd better be getting on home," Mr. Cahalane reminded us. The day among these wonders had passed all too quickly.



seacoast valleys

Where glaciers grind their slow way to the sea
Lie rain-wet valleys, green and summer-sweet;
Here thorn-spined devil club and ancient tree
Hide fat earth where a good axe-man can be
Faced with the challenge his sharp blade can
meet.

So he fells the trees for cabins, splits his rails—
His patience is the strength of pioneers!
But till this axe-man plants a crop that never
fails

And sleek cows over-brim the milking pails
Unconquered is this last of our frontiers!

J. C. F.



SEACOAST VALLEY

The next morning I collected plants, ranging far and wide to discover as many different kinds as possible. Climbing along the rocky bed of Knife Creek, with the walls of the canyon closing me in on both sides, I suddenly heard the sharp whistle of a ground squirrel. A ground squirrel! The sound was so alien to this dead land that I could not believe my ears. True, I had seen the tracks of a Brown bear skirting the fumaroles yesterday, and I had seen snowbuntings flying about camp; but how would a squirrel get into this country? Now there it was again—the sharp double call, from which the Eskimos have given them the name “sik-sik.”

I traced the sound around the next bend, and was literally blinded by a patch of green clinging to the wall of the canyon. A regular oasis amidst the desert. A small waterfall sprayed the dense mat of vegetation with a fine mist. Mice scurried back and forth, unafraid of any lurking enemy. Ground squirrels chattered away, eyeing me curiously.

HOW did this oasis form? No animals could have survived the eruption, for the whole canyon had been filled with hot sand. And they could not have wandered over the fifteen miles of sterile land to reach the upper part of the Valley, for they would have starved to death. Then how did they get there? It remains a fascinating mystery.

Now, in the various areas of the monument, many forms of wildlife are found, including giant Brown bears, moose, caribou, red foxes, wolves, otter, marten, mink and beavers. Waterfowl are seen in abundance on the lakes and rivers, and thousands of ptarmigan call the park home.

Clouds had settled low in the valley the next day. I decided to climb 7,585-foot Knife Peak Volcano. Two hours later I emerged from the milky mist of the clouds into brilliant sunshine. After two more hours I reached the flat summit.

Below me stretched a panorama of exquisite beauty. With the clouds quilting over the valley, the sharp tips of the mountains jutting into blue above, and the vanes of smoke drifting before the breeze, I just sat there, drinking it all in, happy and satisfied to be there. I felt quite apart from the life that existed below the canopy of clouds.

With the sun sinking, I slid and stumbled down the steep ash slopes of the extinct volcano. Approaching our tent, I could hear somebody working the crank of our radio.

“... Roger, Roger, Bob,” Dr. Curtis was repeating. “If weather is good day after tomorrow, you’ll send in Pacer to pick up Cahalane, Ward, and Schaller. Party Able... over and out.”

“Well, we were finally able to pick up home base,” said Jack, as I pushed under the flap of the tent.

Our work in the valley was finished. We had collected and pressed numerous plants, and had taken many notes. And

we had marked certain areas with aluminum stakes, to which someone would return every few years to note the progress the vegetation had made.

Late in the afternoon of August 9 we heard the plane coming up the valley. Secretly I had hoped that it would not come. I liked the valley in a way, and yet I didn’t. Its very deadness captivated me. But the lifelessness horrified me.

As the plane headed down the valley, with the columns of steam writhing like specters, and the sky turned red by the fading rays of the sinking sun, I wondered what this place would be like ten years, fifty years from now.

The Valley of the Smokes is dying. Within a few years the hundred smokes that are left will undoubtedly have disappeared also. Plants and animals are moving back to their former home. In a few hundred years will this wonder of the world again be a green and luscious valley as it was in former times? Or will another eruption in the area devastate the country again?

The almost unbelievable beauty of this great monument has been witnessed by comparatively few persons. Actually only a few anglers have enjoyed fishing in the magnificent lakes, teeming with rainbow trout and salmon, or in the swift-running feeder streams which are the spawning grounds for thousands of Bristol Bay red salmon.

Because of its location, the Katmai national monument has been visited by merely a handful of travelers. Travel is by air and boat exclusively. There is no road leading to the park area. The national park encompasses 2,697,590 acres, and the valley itself is four and a half miles wide and fifteen miles long. This strange, scenic land will probably be a travelers’ paradise someday. Northern Consolidated Airlines now



National Park Service

A few miles from the “dead valley” green and luscious plant life is abundant, and game thrives. The Brown bear above has just caught a sockeye in Brooks River.

maintains fishing camps there, and conducts special tours during the summer.

At present, for anyone who has not seen it, the magnificence of Katmai National Monument and the Valley of Ten Thousand Smokes is hard to imagine. In its bigness it is truly Alaskan; in its splendor it is unique. Dick Ward summed it up neatly one day as I was photographing the Valley. He turned to me and said, “You can take pictures, but they’ll never help anybody to imagine what this place is really like.” ▲

The glacier in Mount Katmai’s crater is one of the few in the world whose age is known. It started to grow after the eruption. Knife Peak Volcano is in the background.

National Park Service



Old Man of the Ice Floes

By J. Lester Minner



Woody Williams

The bull walrus is a monogamist who helps his mate with the babies and appears to have considerable affection for his family. Almost nothing in nature matches the ferocity of an enraged walrus cow when her offspring is threatened.

With the walrus's tough hide the Eskimo covers his oomiak, as shown below, floors his igloo, weatherproofs his cache, makes a tent or a tossing blanket.

J. C. P. Scottowe



FROM the southern limits of the Bering Sea on the Pacific side of North America, and from the Labrador coast on the Atlantic, reaching northward far into the Arctic Sea, is found the walrus, sometimes referred to by the Eskimos as the "old man of the ice floes." This mammoth cousin of the seal lies sprawled on a piece of drifting ice throughout much of the Arctic day, basking in the sun. Occasionally he slips off to go for a swim in the icy waters over which his basking ground floats.

A clumsy, ungainly animal on ice or land, the walrus is almost without peer as a graceful swimmer. In his favorite element this monster skims along the surface with surprising speed, treads water with head and shoulders well above the surface, dives with unbelievable ease two hundred feet straight down to the ocean floor. He, like all mammals, must of course come to the surface at intervals for air, but because

he can stay under water for relatively long periods—the Eskimos say about ten minutes—the walrus can cover great distances if bent on escape, or dig out a surprising quantity of clams if he wishes to dine.

THE old man of the ice floes may grow to be twelve to fifteen feet long and weigh up to three thousand pounds. His dark red skin, tough as a rhinoceros hide, covers a two-inch layer of fat providing excellent insulation against the Arctic cold.

His front flippers are unique flares of skin stretched over bone and muscle, adaptations of what must have been front feet in land-dwelling ancestors. But whatever the origin of these appendages, they are now used as fins with which the monster swims, as legs with which he hitches himself over the ice, and as hands with which he tends the baby or grasps the edge of the ice and hoists his repulsive carcass out of the water.

It is difficult to tell where the massive shoulders and neck leave off and where the head begins. The blunt, dull, bewhiskered face with its little, unexpressive pig eyes leaves much to be desired in the way of beauty. From the mouth, an aperture beneath the head, protrude two curved ivory tusks. These tusks may in the Pacific variety reach a length of two feet and a diameter of four inches at the base. The cow's tusks are somewhat shorter and considerably more slender. The Atlantic variety of walrus is smaller than the Pacific variety and has correspondingly smaller tusks.

Usually the tusks are solid from the points to four or five inches from their roots in the jawbone. There are seldom more than two tusks to a head, but occasionally a walrus may have more. In 1947 a very large walrus bull with three tusks was taken near Wainwright, Alaska. Whether the third tusk was a mutation or was caused by some injury is not known, but the old fellow did have three perfectly formed tusks. Two came from the same bone socket in the skull. The normal pair was about twenty inches long. The extra tusk was sixteen inches long and quite as symmetrical as the others.

So far as is known the tusks have three uses—that is, to the walrus. The Eskimos find hundreds of uses for them when the walrus gets through with them. A clam digger, the walrus uses his tusks as a pick to open the clam beds on the ocean floor. On Blossom Shoals near Icy Cape it is often possible to find large herds of these animals feeding on shellfish to be found there.

Secondly, the tusks become a lethal weapon, indeed, when driven by the momentum of an angry or excited walrus flashing through the water. An Eskimo friend of mine tells of having had his lifeboat, rigged as a hunting launch, stove in by the tusks of a wal-



Lomen Brothers

Eskimo hunters often pass up large groups of walruses, looking for two or three together. Thus they avoid being attacked by relatives of those wounded.

rus bull angered at the death of his mate.

Finally, the walrus uses his tusks as ice hooks. It is interesting to watch a walrus when he wishes to get onto a piece of floating ice. He sets his tusks into it, grabs the edge with his flippers and hoists his massive body out of the water with unbelievable ease.

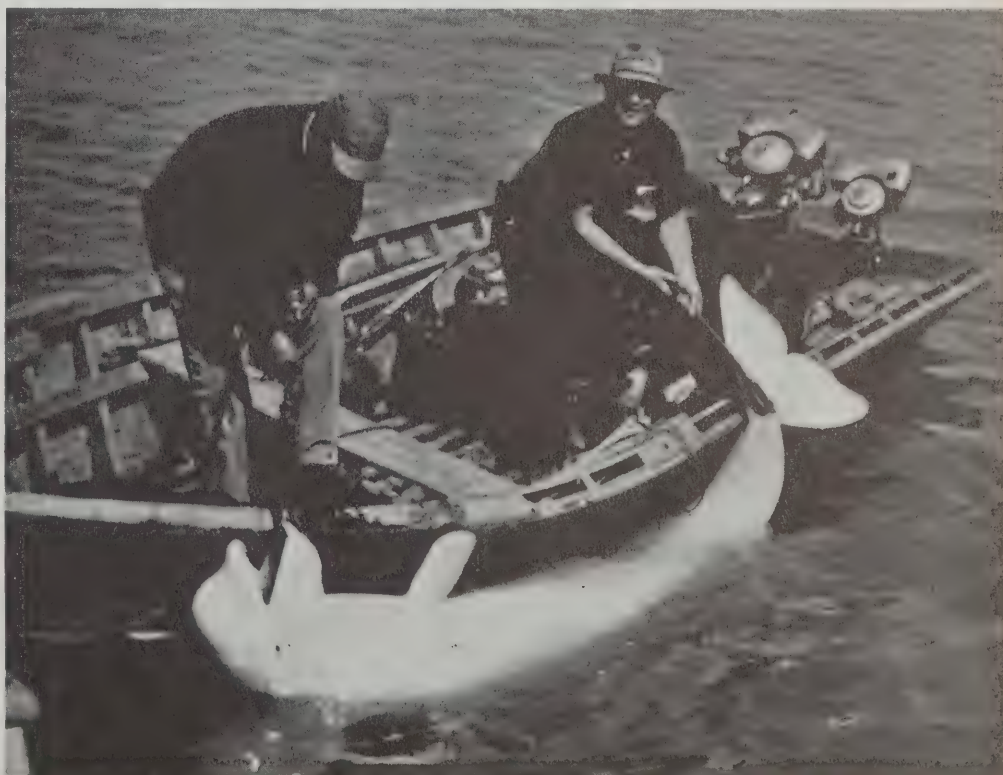
Unlike the fur seals of the Pribilof Islands, which are confirmed and aggressive polygamists, the old man of the floes is a family man in the very best monogamist tradition. He takes a mate, remains faithful to her—well, almost—helps her with the babies and appears to have considerable affectionate regard for his family. It is well known that either a male or female walrus will come back to the scene of shooting for a wounded mate or baby,

and take the unfortunate victim with him.

Almost nothing in nature matches the ferocity of the cow if her calf is attacked. Eskimo hunters know better than to harpoon a calf while their oomiak is in the water. The usual hunting technique of the Eskimo to avoid being attacked by relatives of wounded animals is to avoid shooting into large groups. A hunting crew will often go right on past pieces of ice that are literally covered with sleeping walruses, until they find a floe with only two or three on it. As soon as a suitable group is selected, the hunting crew will drive the oomiak silently against the ice, jump onto it and pull the oomiak quickly out of the way of swimming walruses. Only when the skin boat is on the ice do the hunters start shooting.

Killer whales are the most dreaded of all the marine animals. The beluga, or white whale, shown below, will throw itself onto the beach to escape them.

Roman Malach





Harrington, from *Three Lions*

Walrus meat is dog feed throughout the Arctic, and "very good for Eskimo too" when less coarse fare is not plentiful.

The walrus has few natural enemies, and this is, in a sense, his chief undoing. Whereas the seal sleeping or basking in the sun maintains a rhythm of watchfulness to avoid being eaten by Polar bears, the walrus need take no such precaution. It is true that a hungry Polar bear will occasionally

Walrus once were abundant in the Alaska Arctic, but now Eskimos go long distances to hunt them. When, for reasons unknown, the huge herd shown below gathered on shore near Point Hope some years ago, Eskimos were astonished.

From *Three Lions*



slip by the sentinels and kill a baby walrus, but Polar bears have very little enthusiasm for mixing with a fully grown bull and none at all if the bull is in the water.

An Eskimo friend told me he has watched walrus parents take their baby away from a Polar bear by dragging it into the water with the bear clinging to it. They then drove the bear back onto the ice.

Another Eskimo hunter told me of having seen a Polar bear throw ice at sleeping walrus in an attempt to knock them unconscious. This, of course, sounds fantastic, and the report may have been just a tale spun for the amazement of a gullible listener. But the fact remains that Eskimos know fairly well how Arctic animals react in any situation, and they do not hesitate to risk their lives upon such knowledge.

Both the facts that the walrus is a sound sleeper and that the Eskimos can predict what he is likely to do under given circumstances are illustrated by a hunting incident which occurred on an offshore floe near Wainwright. One of the Eskimo hunters volunteered to take my movie camera and try for a close-up of an old bull snoozing peacefully on a small piece of ice. The Eskimo crawled within five or six feet of the animal, where he could count the old fellow's whiskers. Then he set up the movie camera leisurely and began to shoot. The walrus, awakened by the click of the camera, came to life with a start and let out a bellow like a scared calf as he floun-

dered desperately toward the water.

But regardless of how careless a walrus may be when basking on the ice, he keeps alert when in the water for his dreaded enemy, the killer whale. Killer whales, credited by natives with being half human, are the bandits of the ocean. When one is in the vicinity all creatures of the deep flee for their lives, and with good reason. The killer will attach himself to the lip of a great bowhead whale many times his size and drown the monster. He will surprise a school of belugas, and in their mad panic to escape the small whales have been known to dash completely out of the water and lie high and dry on the beach. On one occasion killer whales drove a school of three hundred belugas into shallow water on Kuk Inlet, where the belugas avoided the most feared of all sea hunters only to die before the rifles of the Wainwright Eskimos.

IN AVOIDING the killer whales the old man of the ice floes does little better than the bowhead, beluga and other monsters of the sea. But he does have one advantage. He customarily feeds on the ocean floor in shoals, and hence water too shallow for a killer whale to negotiate is frequently close at hand. If not, there are always ice cakes to serve as havens. To these the walrus will dash in panic at the first hint of a killer whale's approach.

Man is, of course, the walrus's chief enemy, and one with whom the animal is not well prepared to cope. Too many of the walrus's habits play into the hands of the hunter. In addition to being a sound and careless sleeper, the walrus is a noisy, sociable fellow who by his bellowing actually advertises his location for miles about. A group of walrus will gather on a piece of ice until there's no room left, and occasionally some will lie in the water resting their heads on the edge of the ice, apparently just to get in on the party. Then the bulls will bellow until the sea echoes and re-echoes with the noise.

I was once with an Eskimo hunting crew watching for the dark pieces of ice characteristic of those covered with walrus, when the captain of the launch killed the motor and listened for a long time with his ear close to the becalmed water level. Twice he shouted in imitation of the walrus bull and then listened for the answering bellows, which came almost instantly over the ice floes. The captain then started the motor and sped toward the animals, which would have remained safe if their habits had been less boisterous.

For a thousand years the Eskimo hunters took all the walrus they wanted with harpoons, and yet there remained in Arctic seas enough to maintain the proper balance in nature. But nineteenth-century whalers who spent years at a time in the Arctic took

great numbers of walrus for food. And with high-powered rifles and gasoline launches, trophy-seeking white men and native hunters greedy for ivory have depleted walrus herds to the point where extinction threatens.

Especially within the last few years, walrus in considerable numbers have been killed for ivory without regard to conservation of the meat. After the heads are cut off, the carcasses are allowed to drift with the current. Occasionally such a carcass is taken by Eskimo villagers and used, even in a putrid condition, for dog feed—now more often than not scarce because, primarily, of this willful waste.

THERE are probably still enough walrus left to meet Eskimo needs and at the same time rebuild the herds to optimum numbers, but only if game laws prohibiting walrus hunting by white men are strictly enforced. It is desirable, also, that Eskimo hunters confine their taking of ivory only to that from animals needed for meat.

A very reliable village leader in Wainwright told me that when he was a young man hunting with Whaler Jim Allen, he had waited two hours for a moving herd of walrus to clear the ocean in the way of his launch. Now, by contrast, Wainwright hunters can take the walrus they need only with great effort and the risks of traveling long distances over open seas to the outer ice floes.

Economic needs which the walrus helps supply are many. If one disregards the place of ivory in world trade and the use of walrus heads and tusks as hunting trophies, and thinks only of the importance of this animal in the Eskimo's economy, there are yet many things to consider. With the walrus's tough hide the Eskimo covers his oomiak, floors his igloo, makes a tent, weatherproofs his cache, fashions a tossing blanket for use at Nalakatuk, the whale dance.

The dark red meat of the walrus is standard dog feed throughout the Arctic, and when less coarse meat is scarce it is, as one Eskimo hunter said, "Very good for Eskimo, too." In many villages, therefore, caches are filled with dried walrus meat, and in ice cellars are stored frozen supplies for future use. So important, in fact, is the abundance of walrus meat that the location of an Arctic village may depend primarily upon a plentiful and constant supply in the area. King Island is such a village. Great ice floes drift past this barren rock, carrying on them vast amounts of this basic product of Arctic seas. The island also has natural ice caves where, I was told when I visited King Island in 1948, there is enough walrus meat stored to provide meat for the village for two years if poor hunting conditions should develop.

But meat is not the most essential product of the walrus, or at least it



The sea lion, above, the seal, walrus and some other marine mammals were land dwellers in past ages. Now adapted to the sea, they move awkwardly on land.

was not in the past. Primitive Eskimos fashioned tools and weapons of all kinds from ivory, without which it is doubtful whether the Eskimo culture could have developed. Spears, arrow points, ulus (knives), harpoon heads, combs, snowshovel tips, fish hooks, bird snares, skin softeners and weaving needles are only a few of the artifacts which testify to the versatility of this material in satisfying primitive human needs.

Its ornamental qualities helped satisfy the natural craving for beauty. Carvings of local animals and birds appear in practically all villages where ivory is found. What marble was to the Greeks, walrus ivory is to the Eskimos. At Point Hope, where whales are abundant, exquisite carvings of whales are to be found. In Wainwright and Bar-

row, closer to the natural habitat of the Polar bear, good models of this animal are made by Eskimo carvers. On King and Little Diomed Islands, home of sea birds and walrus, these creatures appear most often in Eskimo art. But whatever the subject of the carver, his medium is ivory, gift from the old man of the ice floes.

Often, as on King Island, the entire economic cycle is geared to the carver's art. Throughout the long winter nights, old Eskimos sit by stone lamps and make carvings from ivory tusks. When summer comes, all the people of this village take their ivory treasures across Bering Strait to Cape Prince of Wales and thence to Nome, where from camps on the beach they sell to tourists. The rugged fall storms make it

Without the walrus it is doubtful whether the Eskimos could have existed in the Arctic. In the photo below, a walrus-skin-covered oomiak is a windbreak.

Lomen Brothers



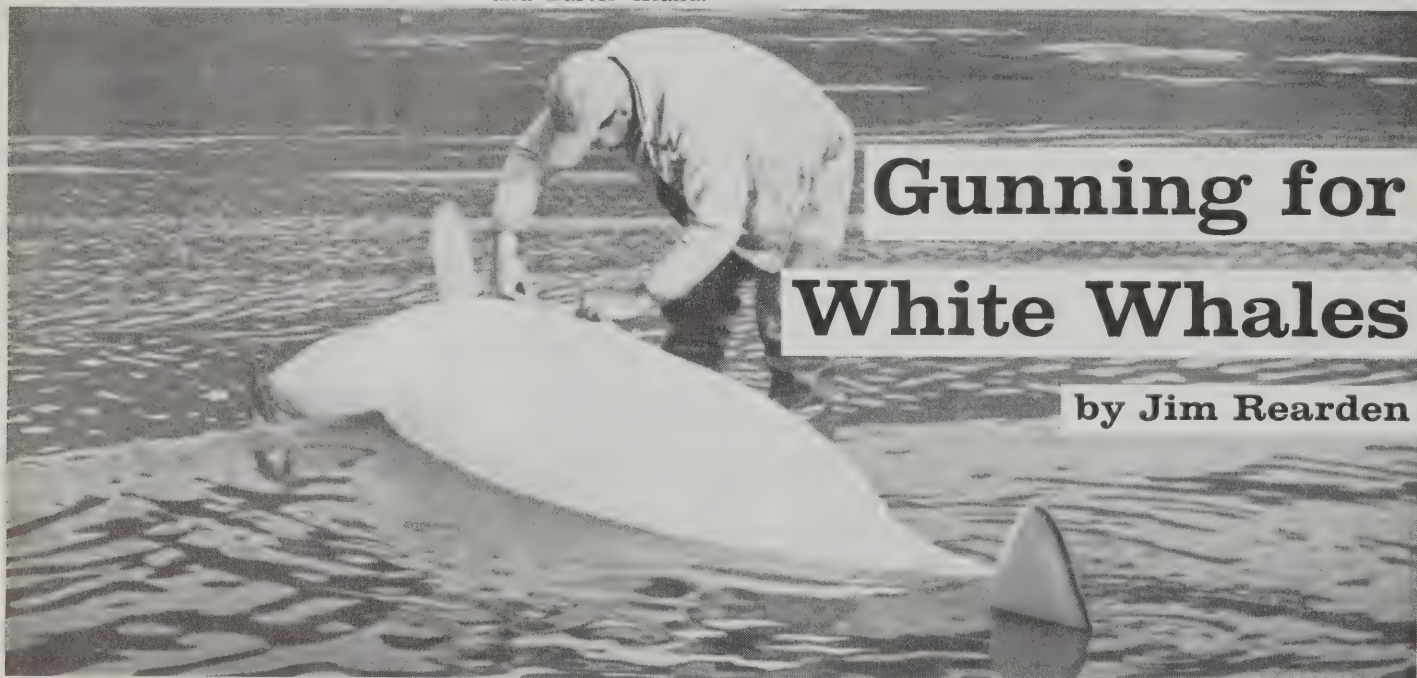
necessary for these Eskimos to hitch-hike back to their bleak island homes aboard the North Star, the Government supply ship serving remote Arctic villages. Back at home, they begin again the endless cycle—hunt more walrus to get more ivory to make more carvings to sell to more tourists. The walrus is, indeed, king on King Island. Without him, life there simply could not be sustained.

Today, when the marrow has been eaten from the walrus bone, it has no further use. But in primitive times it was an important by-product of the hunt. From bone were fashioned stakes for tents, handles for ulus, weights for snares to throw among flying birds, even sled runners in villages where driftwood was scarce. I found and

bought a bone sled runner at Savoonga. It was among artifacts offered for sale by a Saint Lawrence Eskimo who came aboard the North Star. The holes in the bone, still intact, must have been made with an ivory drill, and used to carry walrus or oogruk skin lacings that held the parts of the sled together.

Certainly no discussion of the economic uses of walrus products would be complete without mention of the layer of blubber found beneath the skin. This blubber may be rendered into an edible fat, or a good quality fuel for stone lamps. It is true, of course, that seals and whales provide much of the oil used by Eskimos. But walrus fat is occasionally used, even today, to warm igloos and houses in such villages as King Island, Little Diomed and Barter Island.

Not only is the walrus an interesting fellow whose habits merit study and whose contribution to Eskimo culture is essential. He is an animal who will continue to have a leading part in the economy of the North. So long as Eskimos hunt upon the sea in skin boats and use dogs as a means of transportation over Arctic snow and ocean ice to trap and hunt the seals, whales and caribou needed to provide their basic needs, the presence or absence of the walrus on the Arctic ice floes will continue to be a matter of grave concern to every Eskimo. The old man of the ice floes is a natural resource which must not be allowed to disappear from the Arctic if its aboriginal human inhabitants are to survive independently there. ▲



Gunning for White Whales

by Jim Rearden

Photos by Jim Rearden

Hunting belugas is food-gathering to Eskimos, a salmon conservation measure to commercial fishermen, an exciting sport to the few white persons who have discovered it. To James W. Brooks, marine mammal biologist, it was all in a summer's work.

Being a mammal, the beluga breathes air. A hunter can follow its wake in the shallows, but only when it comes up to breathe can he see it in the silty waters of Bristol Bay.



ABOVE the roar of the wide-open twenty-two horsepower outboard motor and the slap-bang sizzle of a heavy boat slamming through the choppy salt water, I heard the shouted words, "Throw it now!"

Balanced in the bow of the big salmon seine skiff, right arm cocked at ready, harpoon in my hand, I swayed with the violent turns. For a moment I spotted a flash of white ten feet ahead of the boat, and slammed the harpoon into it.

A huge white fluke erupted furiously, slamming buckets of water into the boat, as the heavy weapon splashed home. I grabbed for the five-gallon float can attached to the forty-foot line, but I was too late. With a clatter and bang the can bounced past my ear, glanced off the gunnel and plunked into the water, splashing me again. Then it skipped for about seventy-five yards at high speed, at times bounding clear for ten or fifteen feet, again almost disappearing beneath the surface.

The can and my harpoon were at-

tached to a white whale, or beluga, and I was on one of my most thrilling hunts. No, this isn't a new version of Moby Dick. I was with Jim Brooks, marine mammal biologist with the Alaska Department of Fisheries, in Bristol Bay north of the Alaska Peninsula, and we were harpooning and shooting whales from a seine skiff.

Jim, running the outboard, followed the floating can as it bobbed off. I took pictures as the whale surfaced, revealing the harpoon firmly imbedded in its back. In five minutes the whale traveled perhaps a quarter of a mile, swimming in circles, hurt and confused. Blood stained his wake.

Whale Tows Skiff

Jim nosed the boat up to the float can and I retrieved it, snubbing the harpoon line to the bow of the skiff. Then we were off on a Nantucket sleigh ride that I'll not soon forget. Although adult belugas are only ten to seventeen or eighteen feet long, and they weigh from a thousand to perhaps twenty-five hundred pounds, this one towed the twenty-two-foot skiff through the water at an amazing speed.

We let him pull. He surfaced continually, exhaling with a raspy, quick sound and then sinking beneath the silty waters again. In ten minutes or so he showed definite signs of tiring. Bracing my feet in the bow, I pulled the skiff closer to the animal by the harpoon line. Finally we were within three or four feet of the weary whale. As it rose and sank slowly, I could see blood trickling into the water from the harpoon wound.

Jim had been hunting for a month before I arrived, and had been using his .30-'06 to finish off his whales. I had my .357 Magnum handgun with me, however, and we decided to try it out.

"Shoot about a foot behind the blow hole and into the brain," Jim instructed.

That was easy enough to say. The whale rolled as it came to the surface each time, putting the spot I had to hit between his back and the gun. I was trying to hold the harpoon line in one hand and shoot with the other—and my balance in the bobbing skiff wasn't very good. All excellent alibis!

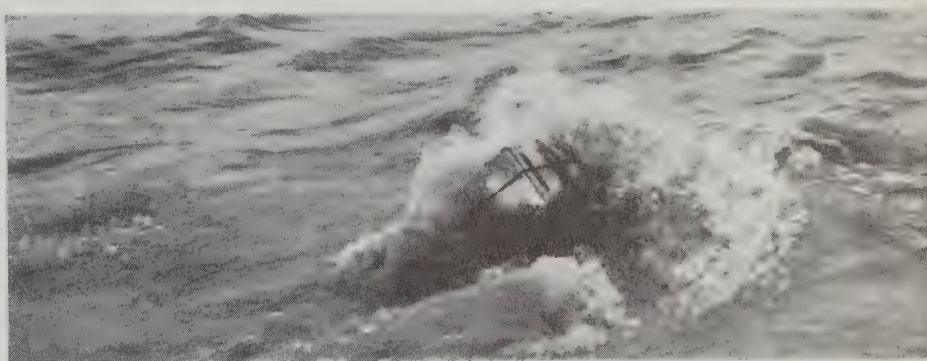
Timing my shot carefully, I aimed and squeezed the trigger. A small red spot appeared about four feet back of the spot I wanted to hit. Jim laughed. I tried again, still hitting too far back. Finally one of the 158-grain bullets slammed into the correct spot. The whale wilted. He didn't have a death flurry, he simply died, and we were attached to a fourteen-foot chunk of red-stained meat and blubber.

Killing the whale with a .357 wasn't really remarkable. The Eskimos commonly kill them with .30-30's, and even with .25-20's. The bullet must hit the correct spot, however, because a beluga hit anywhere except in the brain will continue to swim and fight seemingly forever.

Jim told me about an inexperienced white man who harpooned a beluga and simply riddled it with 180-grain bul-

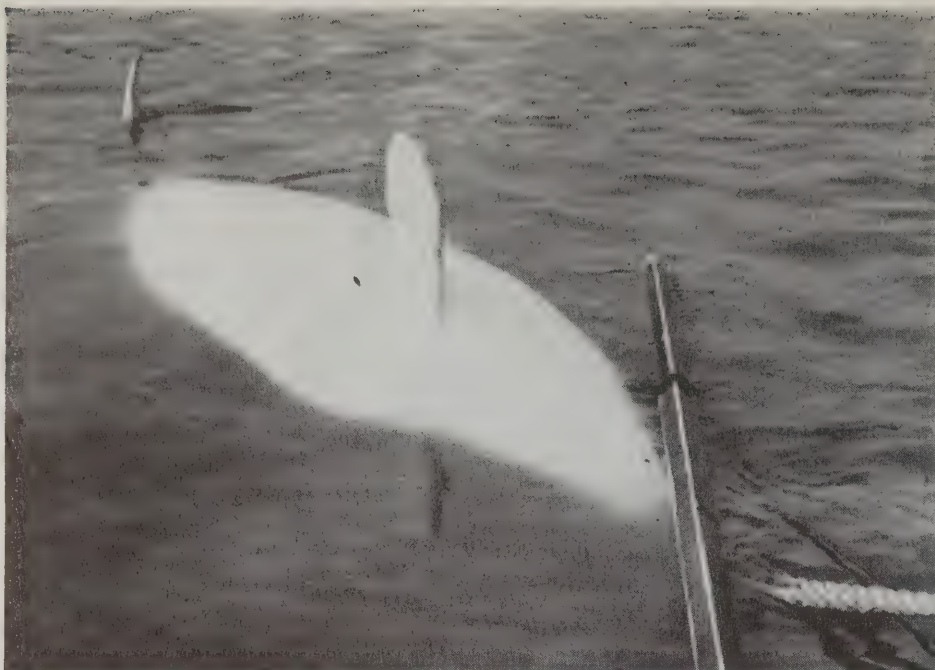


When in a good position, Brooks heaves the harpoon about six feet ahead of the beluga's wake, as shown above. Practice develops skill in this maneuver. The float at the end of the harpoon line, below, bounds after the wounded whale and indicates its whereabouts.



The float is retrieved and the spent beluga drawn alongside the skiff, as shown below. Attached to the line is the harpoon handle. Its head is imbedded in the head of the whale.





The beluga has a pair of fins, which act as elevators, and horizontal flukes with which it sculls. Its swimming speed is about twenty knots. The milk-white skin is hairless, the length of an adult ten to eighteen feet, the weight up to twenty-five hundred pounds.

lets from a .30-'06. They were in its body, its head, its flukes, everywhere, until it looked about like a colander. Still the beluga swam about, refusing to die. An Eskimo who was watching the performance took pity on the man, or perhaps on the whale, and offered to make the kill.

The white man, thoroughly discouraged, accepted gratefully and stood with open mouth, shaking his head, when the Eskimo placed one shot in the proper spot and the whale died instantly.

At the magic spot, a bullet has only four inches or so of skin and blubber

and perhaps three-eighths of an inch of skull to penetrate before reaching the brain case of a beluga.

We cut a slit in the floor of our whale's mouth, tied a line through the slit and towed the animal ashore. After we had dragged it as far out of the water as we could, I examined it closely. It was a pure milk white all over, with a dusky tinge to the edges of the flukes. The ear holes were microscopic, but, spurred by Jim's challenge to find them, I finally did. The eyes were also small. Teeth were peg-like. The tail, or flukes, were horizontal as in all whales. The animal was about fourteen

feet long and weighed, I am sure, more than a thousand pounds and possibly as much as fifteen hundred. Actually it was not a large beluga, but it surely looked big to me!

After we had examined the animal, Jim went to work. He opened the stomach and found it full of adult salmon, some with scarcely a mark on them.

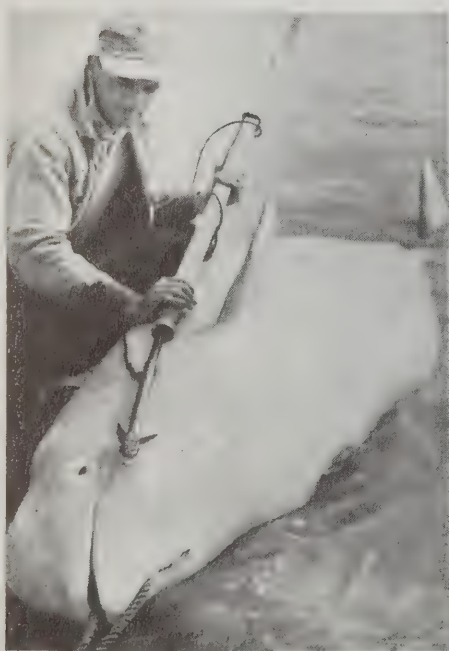
This was the reason Jim was hunting belugas. Commercial fishermen in the Bristol Bay area, which is known as one of Alaska's finest red salmon fishing grounds, have complained for a number of years about the depredations of belugas on salmon. So Jim, the marine mammal biologist, was dispatched by the Alaska Department of Fisheries to investigate. The only way to learn what the belugas were eating was to kill them and open their stomachs.

This was the twenty-fifth whale Jim had taken in his study. Eventually, over a period of two summers, he killed about a hundred and fifty before he felt he had enough information about their food habits to make any valid conclusions.

This may sound wasteful of whales, but it wasn't. Every animal Jim killed he gave to the local Eskimos, who used them for food. They preserve the meat by salting or drying. The flukes, boiled and pickled, are a favorite Eskimo food. The skin and about half an inch of the underlying blubber, called muk-tuk, is also a favorite with Alaska Eskimos. I liked the flavor, but my teeth couldn't make much of an impression on the rubbery stuff.

I did cut the backstrap and liver from one of the belugas we took, and we cooked and ate them. I don't believe anyone could distinguish them from the same cuts of beef.

Beluga hunting has long been popular with Alaska's coastal Eskimos, particularly in the Kotzebue Sound area. The milk-white cetaceans are so well liked as food that, during the summer,



Brooks, at left, preferred to harpoon a beluga in the shallows, then shoot it. Of several harpoons he used, the one pictured below is an old-time whaling harpoon with a tip that turns crosswise in the animal's body, in the position shown, and cannot be withdrawn.



a whole beluga will often bring thirty-five dollars. About a hundred a year are taken by Kotzebue people.

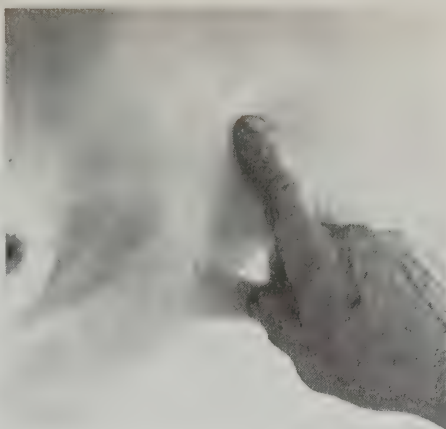
With more and more people visiting Alaska, travelers and sportsmen are getting acquainted with the sport of beluga hunting, and each year more white men hunt them. I'm sure if more visitors to Alaska knew about them, the beluga would become one of the most popular big game species in the Territory.

The harpoon I'd thrown had penetrated eighteen inches through the back and into the right lung. We had to chop it out with an ax. Jim finished counting and identifying the salmon in the animal's stomach—eight red salmon, two silvers. Then, leaving the carcass high and dry for the local Eskimos to get later, we shoved off in search of more belugas.

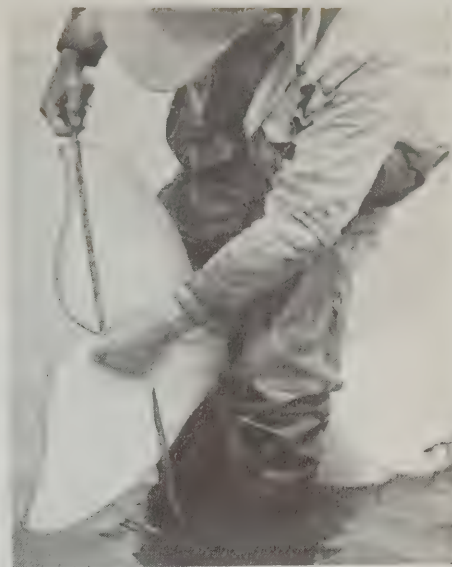
The tide was high—Bristol Bay tides commonly run twenty feet—and we cruised along the shoreline. This was typical beluga range, at the mouth of the silty Nushagak River. Belugas are found most frequently at the mouths of such rivers, from Cook Inlet north, across the top of the continent, in Hudson's Bay (where Canadian Eskimos hunt them and they have some commercial uses), and occasionally as far south on the East Coast as Atlantic City, New Jersey.

Belugas have been seen as far as six hundred miles up the Yukon River. In the ocean they are often found in schools of fifty or more. Being a mammal, they of course breathe air. Young belugas are gray, and about five feet long at birth.

"Smoke ahead," Jim shouted, shading his eyes, then pointing. He meant that he saw the vaporous exhaled breath of whales. As I peered into the distance I saw a white flash, then another and yet another. I counted about ten animals rolling on the surface.



The ear opening, at the fingertip in the photo above, is microscopic and the eye is very small. Size indicates age. This one's fluke from tip to cleft was fourteen inches. It seemed large, but actually was small.



"Ten or twelve of them there, Jim?" I asked.

He grinned. "Probably thirty-five or more. You can figure three under water for every one you see."

I watched the quarry as Jim swung the boat away from shore, putting the slowly traveling pod of belugas between us and some large tidal flats. In deep water, belugas can dive and escape a boat fairly easily. It is only in shallow water that they can be hunted successfully.

The belugas veered toward shore and Jim followed, herding them. He didn't get too close, nor did he stray too far. Belugas fear boats. They will even dive to escape when a small airplane flies overhead, as Jim learned when he made an aerial count of belugas in the region.

One herd he saw on this count numbered about four hundred animals. Belugas are apparently plentiful—too

plentiful, if you ask commercial salmon fishermen.

As the school moved into the shallows the animals seemed to get panicky, and several of them managed to swim past us. But Jim kept them herded and most of them were soon in the shallows. And what a sight!

Belugas surfaced and blew all about us. As they swam in the shallows, in perhaps ten feet of water, they threw up a large following wave that looked exactly like the wake of a power boat. By these waves we could easily follow the progress of each animal, even though they surfaced only occasionally. We had approximately thirty whales cornered.

Jim picked the largest wake we could see and swerved the boat after it, trying to drive the animal toward still shallower water. Once it slid over a

A salmon's eye view of a beluga's maw, at right, shows small, peg-like teeth. Examination of the stomach content, below, left no doubt about the beluga's food preferences. There were red and silver salmon.



shallow bar. The white body rose and floundered. The giant flukes slapped water.

I was poised in the bow again, ready with the harpoon, but at the moment the whale floundered in the shallows he was too far away. I do believe, however, he would have made a reasonably easy shot for a rifle—and that is just the technique many beluga hunters use in Alaska.

Because the animals are very powerful swimmers, it is often impossible to corner them. Then the only way to take one is to cripple it with a rifle shot. The weakened whale swims more slowly and surfaces more often, making it easier to harpoon. A beluga normally sinks when it dies, so these hunters try not to kill them with their shots until a harpoon is made fast.

The best shot for this type of hunting seems to be one well toward the rear of the beluga's body. A thirty caliber rifle, or its equivalent in energy, is the smallest practical fire arm for this technique.

Jim, hunting on the large tidal flats of Bristol Bay, didn't have to resort to crippling the whales first. He simply cornered them in shallow water and kept after them until he had a harpoon in them. A rifle or handgun is essential for killing the animals after they have been harpooned.

By now the herd of thirty had scattered widely, but we clung to the tail of the one Jim had selected. It would swerve right, and Jim would move the boat between it and deep water. Then it would swerve left, and Jim would block it with the boat again. Our speed was about twenty knots.

As I stood balancing in the bow I could see the wake, and now and again the whale would surface. Its back appeared to be about two feet wide as it rolled. I could see the dark blow hole in the center of the patch of milk-white skin that broke water time and again, and I could hear it exhale and inhale as it rolled, swam for a moment at the surface and then plunged under again.

Harpoons Mud

"Lead the wake about ten feet and throw," Jim yelled. Mud swirled up from the frantic sculling of the whale, and occasionally I saw the tips of the flukes. Finally the boat drew close enough, and I heaved the harpoon, aiming for a point about ten feet ahead of the wave thrown up by the speeding animal. The harpoon stuck in the mud. I snatched it up as we flashed by, still hot on the beluga's tail.

Again and again I threw. Each time I thought I had the animal, but each

time I was to the right, or left, or behind it. Hitting a ton-size whale from a galloping, dodging skiff, when the whale is dodging too, isn't so easy as it sounds. I had been lucky on my first one.

Finally Jim had the animal in about eight feet of water. It was simply frantic by then, and in sight about half the time. It started to slither over a mud bar. We were within six feet of it when I merely reached out and shoved the harpoon home. Blood stained the water, and the frantic tail beat it to a froth. I dumped the float can and line overboard and we watched it streak and bounce across the bay, headed for deep water.

This time Jim snubbed the line to the bow and drew us close, and finished the animal with one shot from the .357. At such close range the Lubaloy bullet smacked the whale with practically all its muzzle energy—690 pounds.

Though I hunted only two weeks with Jim, I became a real beluga-hunting enthusiast. I predict that the sport will grow in popularity, and that big game hunters will soon be including a beluga hunt in their Alaska itinerary. Right now the only law that must be observed is the wanton waste act of the Territory that requires all animals killed to be properly utilized. That's no problem. The Eskimos like 'em.

And, for that matter, I do too. ▲



SEAL COVE

Photo by

P. W. Holzgraf

Much of Southeastern Alaska's approximately 3,600 miles of coastline is rocky, precipitous shore, offering no safe anchorage and holding disaster for the small-boatman whose engine fails in a storm. But at intervals the mariner finds hundreds of tiny, sheltered bays and coves behind rocky reefs, where he can nose his way into quiet waters and peaceful shores. Typical of these refuges, where man is but an infrequent visitor, is Seal Cove on the southwest shore of Gravina Island.



Kipp Kippenhan

Polar bears over ten feet long are not uncommon but Eskimo tales speak of beasts with heads alone half that length

Kokogiak

Legendary Monster of the Ice Floes

The "Abominable Snowman" of the Himalayas has nothing on Alaska's monster—Point Barrow Eskimos are again reporting seeing "Kokogiak," the ten-legged polar bear.

The head of this "Kinik" (a polar bear too big to lift himself out of the water onto the ice), one hunter reported as being "more than five feet long and almost as wide."

The tale of this Kokogiak creature is a legend among the Eskimos, but all Eskimos tell stories of such an animal, and from time to time respected hunters report they actually have seen it.

Is there a Kokogiak? Is there some prehistoric bear-like monster still roaming the vastness of the ice fields where no man has yet traveled in our time?

Good men swear there is a Kokogiak.

The following is an interesting appraisal of the story by a white man resident of the Arctic who forbids us to use his name.

"FOR many years various kinds of very large animal life have been reported in the Arctic. Of course, in prehistoric times there were hairy mammoths roaming the area. Their tusks and bones can still be found at various places on the frozen north slope of Alaska, one having been observed protruding from an earth mound in the middle of a small lake.

"Today the interest has been renewed in extra large animals that apparently live in the Arctic Ocean. After careful evaluation of various stories and interviews with those who claim to have seen these 'monsters,' it appears that some of the reason for doubting the stories and the credulence of the wit-

nesses is related to the fact that probably at least three different animals have been seen.

"All of these so-called monsters have been observed by more than one individual: and over a period of years, by several persons."

Referring to recent stories attributed to one Raymond Kalayauk, an Eskimo hunter, our correspondent had this to say:

"One of our best hunters, Nathaniel Neakok, just laughed at this tale—but this same Nathaniel Neakok, with a fellow hunter, Raymond Ipalook, were the next ones to report seeing the Kinik, or Kokogiak.

"Now Neakok just shakes his head in amazement when asked about the Kinik. He says it was grayish white and he and Ipalook saw only its head as it was swimming. They not only did not attempt to shoot it, but instinctively hid themselves quickly behind the folds of the piled pressure ridges of ice.

"In the excitement of hiding, they said they lost sight of the Kinik, but kept watching, and within a few moments it surfaced again at some distance, swimming briskly.

"Neakok estimated the head alone might have been five or more feet long and almost as wide.

"In the memory of elderly hunters there have been other credible reports of monster animals. Two Eskimos, elders in the nearby mission church, Floyd Ahvakana and Roxy Ekowana, are highly respected members of their village.

"These men tell how in 1932 they were hunting with a third Eskimo, now deceased, when all three of them ob-

served a tremendous sea monster thought to be the Kokogiak, or ten-legged bear of Eskimo legend. This monster was also seen swimming, but with enough of its back showing to give an idea of its size.

"They said it was 'four or five times larger' than a normal polar bear, was white, and seen closely enough to convince them it at least belonged to the bear family.

"It seems the old tales have some basis in fact. Neakok is also respected, and an experienced bear hunter. He has killed many bear and is not excitable. He has seen extremely large bear tracks from time to time, and knows that there are extra large bears. Whether what he saw was a bear or not is difficult to determine.

"It is not unusual to have polar bears grow to a size considerably in excess of the largest Kodiaks and many people are now beginning to admit the polar bear is the largest carnivore on earth.

42 Inch Neck

"Bud Helmericks, author, flyer, hunter and guide, has hunted polar bears professionally for more than fourteen years. He reported one of his hunters took a bear whose neck, after the skin was removed, had a circumference of forty-two inches.

"Thomas P. Brower, son of the late Charles Brower, author of 'Fifty Years Below Zero,' reports that he at one time killed three polar bears on a single ice floe—each bear near twelve feet in length before skinning.

"In the past Eskimos have told of seeing bear tracks so large they could sit in them with their legs crossed. This they would say was the track of a 'Kinik,' a bear too big to get out of the water, and this was why they didn't see the bears that made such tracks.

"Two years ago hunters killed a bear just before dark and had to leave the skinning until the next day. On returning to the kill, they found the bear covered with a pile of snow made by another bear whose tracks were so large that a once-folded daily newspaper fitted the track nicely.

"That would have made that track 17 inches long by 10¾ inches wide—a big track, but still not big enough to sit in.

"Later in the day pilot Juel Thibedeau sighted what he believes was the same bear and estimated he would measure fourteen feet in length.

Too Big

"One year ago, Paul Tazruk, a conscientious Eskimo hunter, had just stalked and shot a fair-sized polar bear about nine feet long. Tazruk said that when he was walking up to his kill he happened to notice another bear 'almost twice as big' swimming up to the edge of the ice.

"Tazruk, like other hunters, also hid himself. The big bear, he said, walked over to the dead bear, looked it over, then wandered off.

"Why did Tazruk fail to shoot this second bear? He said this bear was too large to shoot and he feared for his life on seeing it.

"The origin of the Kokogiak story among the Eskimos, widely told, apparently goes back into ancient times.

"It is said that once there was a very lazy Eskimo, the laziest in the village. One evening the hunters were telling of their experiences, and that night the lazy one went out on the ice.

At Twin Glaciers Lodge, near Juneau, Don Juan gets a fresh-water bath in the silt-laden Taku River.

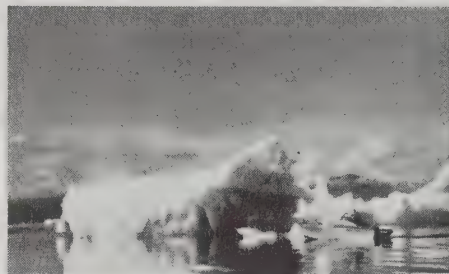


"He came to a large hole where some seal lungs were floating, showing that a large bear had eaten seal for dinner. The man watched and waited by this hole and sure enough, a monstrous bear came up, and as he started to mount the ice, the lazy one rammed his spear in first one eye of the bear and then the other, blinding him.

"However, the bear came right on out of the water, and following the hunter's scent, gave chase. The man ran and ran, dodging among the humps of ice, but could not shake his pursuer.

"Finally he saw ahead two towering walls of ice with only a narrow corridor between. Through this cleft he ran, but

Among the great icebergs Don Juan cruises quiet seas in a fairyland of luminescent blues and whites.



the bear, close on his heels, was too big and stuck fast.

"The hunter ran around then behind the bear and killed him. The bear was huge and had ten legs.

"This is one of many stories, all of them telling of Kokogiaks, or Kiniks, of various sizes. It is possible that ice fogs and the flatness of light at this latitude can play tricks on the eyes. It is highly probable, however, that giant polar bears, larger by far than any shot to date, are roaming the packs.

"Hunter Neakok is convinced. He says he has finally seen the bear that is too big to shoot." ▲

With only an eighth of the iceberg showing above the surface, wary boatmen watch for "turners."



NINE POLAR BEARS BY WALDO BODFISH AS TOLD TO J. LESTER MINNER

Waldo Bodfish is the son of Captain Hartson H. Bodfish, the well-known Arctic whaler whose book, *Chasing the Bowhead*, was published in 1936 by the Harvard University Press. His mother is a Point Hope Eskimo. He has spent his entire life in the Alaskan Arctic, and is now employed by the United States Weather Bureau in the station at Wainwright. He is also manager of the village reindeer herd, and each year he operates a

whaling venture. Last spring his crew killed two whales. Of his father's book Waldo says, "Captain Bodfish knew a great deal about the North. Not only did he understand the ways of the Eskimo, but he also knew much about the animal life of the Arctic."

This story, an extraordinary adventure even in the life of an Eskimo, was told to J. Lester Minner, principal of the Alaska Native school at Wainwright.

A stiff breeze, bringing the ice pack with it, had blown down from the North.

Conrad Hug



IT WAS a crisp morning in early May of 1927. The trapping season was over and the whaling season had just begun in earnest. The young ice along the Arctic coast near the little village of Wainwright extended four or five miles out into the ocean. Two whaling crews, one of which I captained, were camped about five miles offshore on the edge of the permanent floe ice.

For several days a stiff breeze, bringing the ice pack with it, had blown from the north, but on this morning it was almost calm. What little breeze there was came from the southwest, so that the old ice pack had changed directions and was moving again into the Arctic toward the pole.

It was perhaps an hour before sunrise that I heard a peculiar noise. I listened intently for a time. It was a low, continuous rumble that I could not identify. It seemed to come perceptibly nearer as I listened and waited on the top of a high drift for my companions to crawl out of their sleeping bags and join me.

The sound seemed to come from an area in the ocean about three or four miles offshore and several miles below Wainwright, where the Kuk River widens into a lagoon before emptying into the ocean. It was somewhat similar to the noise made by a large walrus herd on the ice, yet it was distinctly different.

If it were walrus it would be well to gather a crew of whalers and at-

tempt to get as many as possible. Our village could always use another walrus. In addition to the ivory, walrus meat is always needed for dog feed. I began gathering the best hunters, that is, the most able-bodied and the best marksmen, from among my friends in both boat crews.

Soon a crew for an oomiak was ready. We took along our heavy rifles and tried to make headway through the young ice toward the point from which the sound came. By that time we were able to hear it clearly. But we were unable to make progress. The young ocean ice, too thin to hold a man, could be broken easily from our position inside the oomiak, but even when the ice was broken ahead the slush ice made paddling so difficult



Florence C. Dakin

By the time we returned to our camp on the ice floe, other whalers had come.

you how we did it long ago."

We listened carefully and promptly did his bidding. In an incredibly short time five hunters were seated in the oomiak, and four of us had taken positions so that each rested one foot on a seat in the oomiak and the other foot on one of two masts laid along either side on the slush ice. Thus we pushed the oomiak along, assisted by the paddles of the men who were seated. As the oomiak went forward through the slush the man in the bow broke off bits of ice ahead forming an open lane of water through which the boat might pass. As soon as the four standing men had pushed the oomiak as far as possible they lifted their feet off the masts so that their companions might slide them forward over the slush ice.

This process we repeated over and over again. It was a slow, hard way to advance, but by careful, persistent work we were able to move perhaps a mile an hour toward our goal.

Before we had left camp, Karmuk had told us that we might go up to the

very center of the group of Polar bears about the dead whale.

"All will be gorged with whale meat," he said, "and if you do not bother them they will not hurt you."

I was afraid, as all my companions were. Perhaps no man can come face to face with a Polar bear without being a little frightened, and the thought of going among a large concentration of Polar bears was enough to make even a brave man a little afraid. The danger from the ice was even greater than that from the bears. Nevertheless we pressed on.

We Eskimos learn from our parents and from the things they tell us. The memories of our old men are our encyclopedia. They never misrepresent nor tell us of events which did not really occur. What they have done before us, we too can do.

We pushed on for a long time, headed directly toward the open water at the edge of the ice near which the whale would be drifting. We could tell by the sound that the old ice, upon which

Perhaps no man can face a Polar bear without being a little scared, and the more afraid a good hunter is the closer he approaches before shooting.

that we could gain no headway.

After working futilely for perhaps an hour we returned to our camp. By that time other whalers had gathered and among them was an old man named Karmuk, an old Eskimo who had been a great hunter in his time. Karmuk had been listening to the noise.

"Once when I was a young man," he said, "I heard a noise like the one I hear now. That time," he went on after a pause, "the noise came from a concentration of Polar bears around a dead whale." He listened again intently as if to make sure that he was not mistaken.

"This, too, is Polar bears feeding on a whale. You can get much meat and many skins if you hurry."

"But how?" I asked. "How are we to reach the feeding place?"

"There is a way," Karmuk answered. "Do as I say, and I will tell

Around the carcass on pieces of floating ice were many bears—more than I had ever seen before—thirty-five or forty in all. As we paddled up to the whale there were Polar bears all around us and we were much afraid.



the bears were, would drift past the village and on out to sea.

We had gone about four miles from camp when we saw exactly what old Karmuk had told us we would find. There was a dead whale floating in the water. Around the carcass on pieces of floating ice were many bears—more than I had ever seen before—thirty-five or forty in all.

As we paddled up to the whale there were Polar bears all around us. We were more afraid than ever, but as Karmuk said, they did not attack. One large bear came out of the water not six feet ahead of our oomiak, and after blowing the air out of his lungs as he broke the surface he looked at us with curiosity. He did not bother our boat, but showed his entire body like a diving oogruk as he went down. He repeated the performance many times. The young ice was about four inches thick in the water surrounding the floating whale. Each time the bear came up—often right at the bow of the oomiak—he broke through the ice, and always he made funny faces at us. Sometimes he was so close that we could almost have touched him with our hands.

If we had had a movie camera that

he dives underneath and eats from below the water level. This he does to keep the whale from sinking. If the bears ate through the top, so that the air inside the carcass could escape, the whale would sink. The bears know this so they always feed from beneath.

We came up very close to the bears we selected to kill, as we did not want merely to wound one. The more afraid a good hunter is of a Polar bear, the closer he approaches him before he shoots. We were very much afraid, so we crept up very close. Each hunter selected a bear and took careful aim. I chose the sleeping bear on top of the whale. At a signal we all fired.

The bear I shot rolled over without awakening. He did not move after he fell. I had selected a vital spot just back of his ear. None of my companions missed, either, nor merely wound-

ed a bear. There were nine men in our party, and we got nine Polar bears.

When we shot, some of the other bears ran away. We let them go. We did not try to get more. It was just as old Karmuk said—none attacked us.

We skinned the bears and took the hides and what meat we could carry to the whaling camp. We had to work very rapidly as the carcass of the whale and the cakes of ice upon which the bears were concentrated were moving rapidly into the open Arctic Ocean.

This was a rare incident, but it does happen once in a great while. It occurred twice in the lifetime of Karmuk. Perhaps I, too, shall live to take part in a second bear hunt where many Polar bears have gathered around the carcass of a dead whale to eat muktuk.



The memories of the older Eskimos are the encyclopedia of the young. From the oldsters they learn what they must do to survive in the North.

bear would have made a priceless picture! He was evidently a born actor, with those funny faces of his. The sun was shining brightly, and the floating whale and white bears against a background of blue and white ice would have been a splendid subject for color photography.

One great bear stood directly on top of the floating whale, sleeping as he stood. Two little cubs lay asleep with their arms around each other on a floating cake of ice not ten feet away as we passed. Those little cubs did not even waken, but slept right on there where they had fallen asleep at their play. They would have made a beautiful movie shot, and a picture of the big bear asleep on the top of the whale would have been a rare shot, indeed.

Fourteen bears were swimming about in the water eating whale meat. Whenever a bear eats at a dead whale

HOW THE MOSQUITO CAME TO BE

An Indian Legend

As told by Genevieve Mayberry

IN ANCIENT times, when there were giants in the land, there lived one giant who was monstrously wicked. His great passion was to kill and eat the people. He killed whole villages of people, and they were defenseless before him.

Although many men tried to kill the giant, they were unable to do so. They lost their own lives instead. This was because the giant had a terrible secret. No one knew where his heart lay in his body, but they knew that the only way to kill him was to shoot him in the heart.

One day the people of a certain village heard that the giant was on his way to their village. They were terrified. But one brave man said to his family and neighbors, "You must run away. I will stay and meet the giant."

Although the people tried to persuade him to flee with them, the courageous man refused to go. When the people had gone, he put on his best clothes and sat down to wait for the giant. When he saw a great canoe float around the end of the island, he lay down on the ground and pretended to be dead.

The giant, finding that all the people had escaped, was furious. He raged around the village, knocking down the houses and tearing up the trees by their roots. When he found the brave man lying on the ground as if dead, the evil giant picked him up in his great arms and tossed him into the canoe. He took the brave man to his house, threw him inside, shut the door and went away.

At once the brave man rose. He found the giant's son in the house. Pointing a spear at the breast of the giant's son, he said, "Tell me where your father's heart is, or I will kill you!"

Badly frightened, the boy replied, "It is in his left heel."

When the giant returned, his prisoner jumped up, seized a spear and thrust it deep into the giant's heel. The giant fell mortally wounded, but before he died he said, "Even though you burn my body, still will I eat you."

He died. The brave man went out and called his people together. There was great rejoicing over the death of the wicked giant.

As was the custom in those days, the people gathered wood and made a great funeral pyre. On it they placed the giant's body. Then they lighted the fire and kept it burning until the body of the giant was only a heap of ashes.

The people danced gleefully around the fire, rejoicing because their enemy was dead. They gathered the ashes carefully in a large basket and carried it to the top of a high hill, where the winds made their home. There they emptied the basket of ashes.

As the ashes left the basket, the winds picked them up and carried them far and wide over all the land.

And every particle of ash became a living, biting mosquito.



Photos by Bill Younker

We saw one large bull caribou that would have pleased most hunters, and would have satisfied Mike had we not seen the ghost of Styx Lake. The photo above illustrates the contrast in size of the big bull's antlers and those of the cows in his harem.

Ghost Caribou of Styx Lake

by Bill Younker

Even here on the crest of the Alaska Range, where they could have had little experience with hunters, the curious cows seemed to know they were safe, and the bulls were wary.



IT WAS well along in September of 1955 when our pilot dropped big Mike Trechow and me on the windy shore of Styx Lake, high up in the crest of the Alaska Range. We had flown in from Rainy Pass with the express purpose of obtaining a trophy caribou bull for Mike, who had come all the way from Norway for this hunt.

There were a few inches of snow on the ground when we landed, and there was destined to be more before our pilot was to pick us up nine days later.

Big Mike Trechow was no ordinary hunter, as I soon learned after hiring on to guide him. He had already taken a fine bull moose and an eight-foot Grizzly back at Rainy Pass, and he now looked forward to his caribou. An ordinary head wouldn't do for Mike. He wanted one good for 350 Boone and Crockett points or better, and he made it clear that he would settle for no less.

Mike, at thirty-two years of age, was known as the wood pulp king of Norway. He had hunted extensively all

over the world, and had killed upward to a thousand wild reindeer in his own country. Tall, rangy, an excellent shot, Mike was to prove a good companion in the days that followed.

After seeing the plane off, Mike and I set up our little wall tent beneath the high bluffs on the east side of the lake. Once the tent was up and our gear stowed safely inside, we shouldered our pack boards and headed for a lookout point half a mile away. Reaching it, we took out our binoculars to scan the surrounding country.

Caribou were everywhere in the vast, broad expanses before us. I saw several groups of cows and two fair-sized bulls in the next thirty minutes, but nothing of trophy size. It suddenly began to snow, and we beat a trail back to camp amidst the fast-falling white flakes.

For the next two days the wind blew flurries of light snow over the mountains, cutting down visibility and making hunting difficult. Mike's hopes began to weaken toward the end of the third day.

"Cheer up, Norsky," I chided him. "It can't last forever."

But the next day was even worse. I killed half a dozen ptarmigan near the tent in midmorning, and was dressing the last one when I happened to glance across the lake. My heart thumped as I stared through the whirling snow. Gray shapes were moving across the tundra, and one stood out as enormous. Fumbling for my binoculars, I put them to my eyes. Sure enough, one of the shapes was a giant gray-white bull.

Racing to the tent, I shoved Mike's gun at him and we started out around the lake. When we reached the other side I picked up the trail of the herd, but before we could catch up with it the falling snow had covered all signs and we had to turn back.

Mike was crestfallen, but I assured him we would see the big "ghost" bull again. "He'll stay on here until the end of the rut," I said, "and unless I miss

my guess, he's carrying a four-hundred-point head."

The next day dawned cold and clear at last, and we lost little time getting under way. Striking out in the general direction taken by the big bull the previous day, we traveled until noon, stopping time and again to put the glasses on a few scattered herds of caribou in the distance. Once I thought we had found him, but a closer examination through the twenty-power spotting 'scope was disappointing. A big bull, but not the giant I had seen on the snowy edge of the lake.

Ptarmigan Stolen by Fox

All day we traveled, returning late that evening dog-tired and wet to the bone. To make matters worse, the ptarmigan I had planned on serving for dinner had been stolen by a marauding red fox and we had to settle for beans. Later I got the thief's pelt—a fair exchange for the ptarmigan dinner.

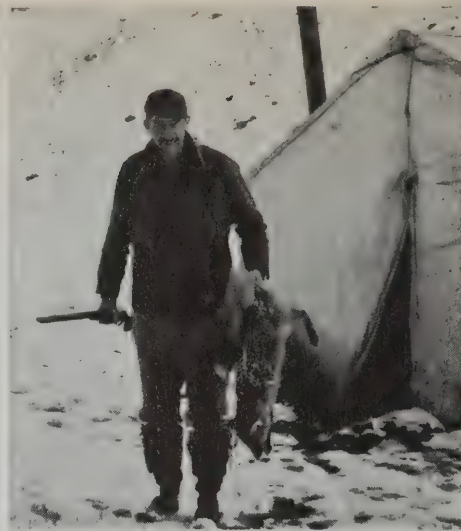
We hunted hard for the next two days without catching sight of the ghost bull, which had now become an obsession with Mike. On the eighth day he turned to me and asked, "How much time have we left, Bill?"

"Not much," I answered. "Our grub supply is low, and with the weather kicking up in the passes, we'll have to get out soon—plane or no plane."

I didn't relish the thought of a forty-mile trek into Rainy Pass, but I didn't want to get frozen in, either.

"Let's try that high canyon back of us today," I said. Mike agreed and we started off. Twice that day I thought I had spotted the big bull, but both times the animal proved to be a smaller, breeding bull.

Coming down a river bed on our way back to camp, I heard a loud, blowing snort in some willows under a cut bank, and a large sow Grizzly broke out ahead of us. Mike had his Grizzly, so we let her go and made our way on to camp.



Later I got the thieving red fox, and his pelt was a fair trade for our ptarmigan dinner.

That night the lake was partially frozen, and the next morning a cold wind blew fine snow flurries over the ground. This was it! We had to get out to lower country or risk getting frozen and snowed in. I went out to the lake for a pail of water, and to make matters even more gloomy, wrenched my back when I stepped on a submerged rock.

Mike helped me into the tent, and I slumped onto the cot.

"What now?" Mike asked.

"If I can walk, we're pulling out tomorrow," I told him. "We'll go light and the plane can pick up our gear on skis later, when the lake freezes solid."

"I'd like to make one last try for that bull," Mike said wistfully. "May I go out alone for a couple of hours if I'm careful?"

"It'll cost me my license if anything happens," I said, "but you help me up to the top of the bluff overlooking the lake, where I can follow you with glasses, and we'll make one last stab at it."

Moving slowly, we made the top of the bluff and gazed around. Three hundred yards away, a shape moved in the dim half-light. It looked like a great gray-white rock with a tree growing out of it. But it moved. It was the ghost bull, with his towering growth of antlers. I pulled Mike down to one knee and pointed.

"There's your trophy, Norsky," I whispered, "Work up there slow, and put one where it'll do the most good."

He gripped his rifle and edged forward. Five minutes later a shot rang out, and the big bull toppled.

An hour later, Mike staggered into camp under the weight of the huge head. It's the guide's job to dress out the trophy and bring it in, but big Mike Trechow was not one to stand on ceremony. I had, incidentally, missed my guess by fifteen points. The ghost caribou of Styx Lake scored 415 points.

Just then the faint drone of an airplane engine came out of the distance. Mike grinned, dropped the trophy and reached for my hand.

"The luck of the Norwegians!" I said, and Mike nodded. ▲

Big Mike Trechow had come all the way from Norway for this hunt, and was not about to let a guide's injured back spoil it. In the photo below he dresses out the ghost bull. At right, he starts to the plane with the antlers—good for 415 Boone and Crockett points.





Maxine Williams

Forget-Me-Nots (Alaska's State Flower)



Winter Logger's Float Camp in Southeast Alaska

H. C. Scudder



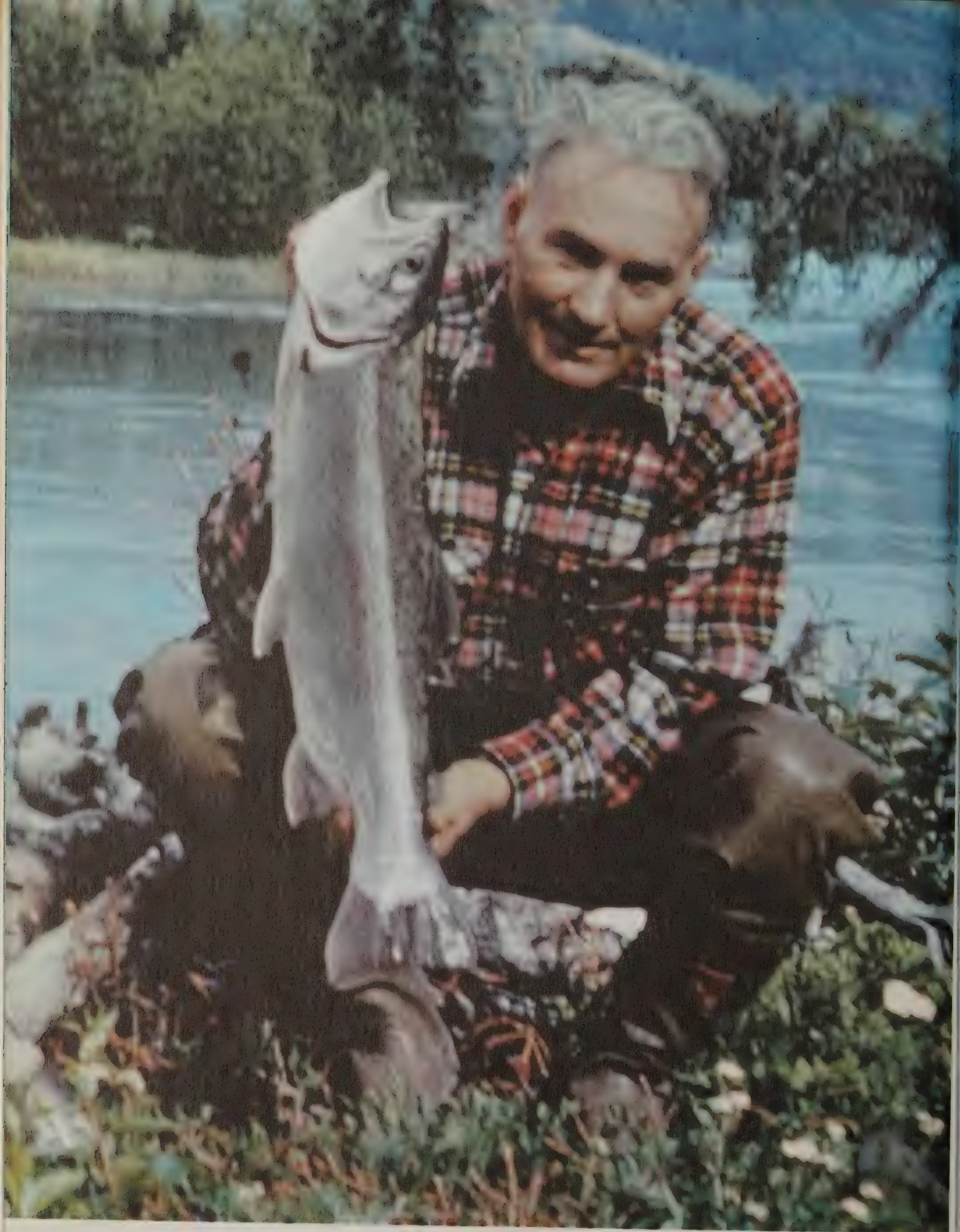
Caribou, fresh from velvet



Elfin Cove, Southeast Alaska Fishing Village

Maxcine Williams





Russian River Rainbow

John Utterstrom



Marjorie Glacier, Glacier Bay, near Juneau

Richard Ward



Dairy herd near Juneau



Maxcine Williams



Strong Flows the River
(McNeil Falls, Alaska Peninsula)

Steve McCutcheon, Mac's Foto Service



Matanuska Farm



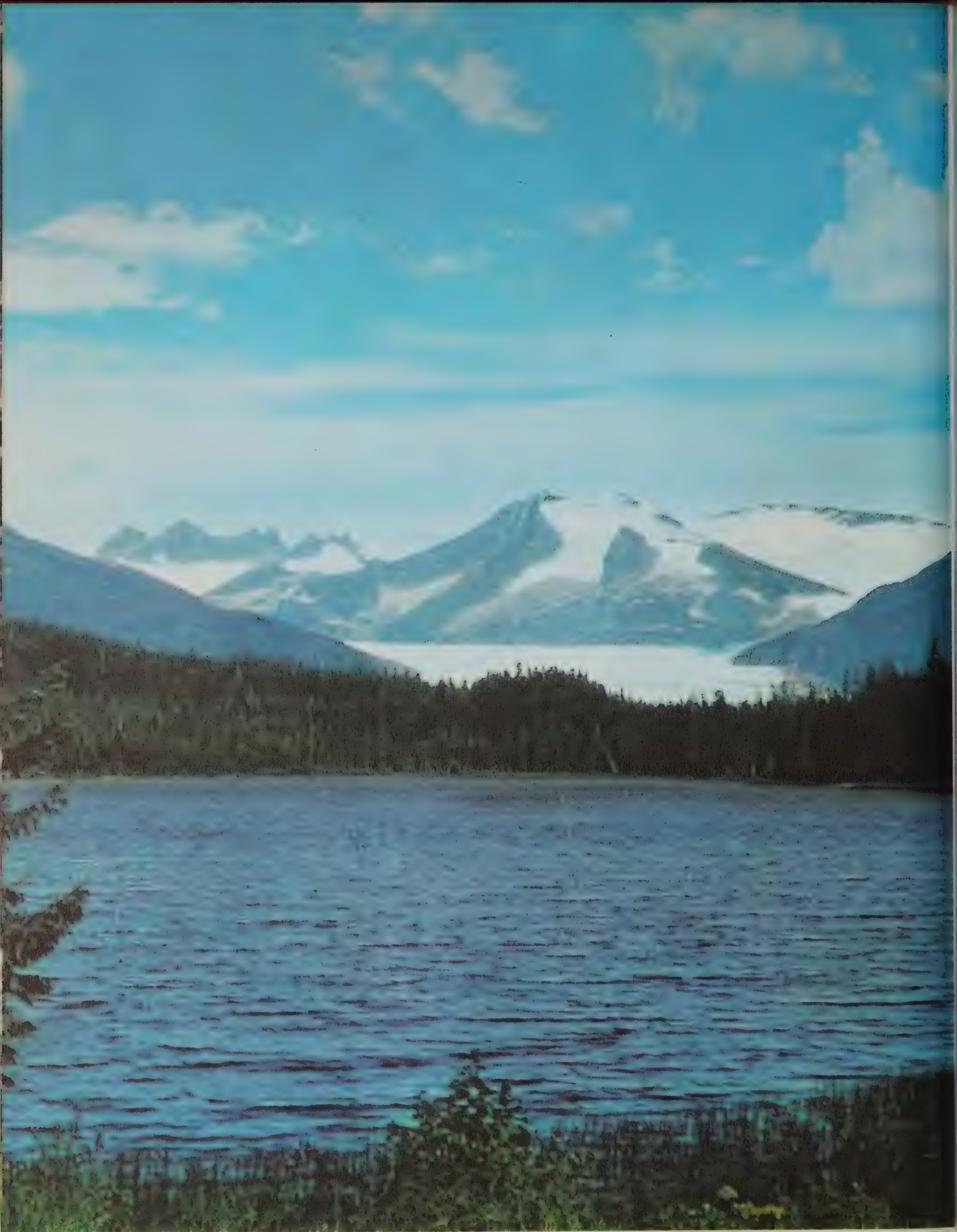
Walrus "haulout," Walrus Island, Bristol Bay

Steve McCutcheon, Mac's Foto Service



Seldovia Winter

Nana Johnson



Auke Lake and Mendenhall Glacier, Juneau

Maxcine Williams



Salmon Troller, Icy Straits, west of Juneau

Maxine Williams



Horseback Hunters in Chugach Mountains Sheep Country (M. M. "Moose Moore" and son Mike)

Steve McCutcheon, Mac's Foto Service



After the bull moose loses his horns for the winter, he's likely to be cross. He can't travel easily in the deep snow, and he won't give you the trail, but will stand his ground and bellow with a deep, rumbling sound. Many an Alaska woodsman has been treed by an angry bull moose in winter. The cow moose with calves can often also be dangerous, but if you care to brave her slashing hoofs you can often drive her away. Steve increased his herd in this manner.

Moose Ranch By Niska Elwell

After the snow was gone, Steve substituted a cart for his sled and went out daily with his dogs to cut and haul brush for Elsie, his moose. Elsie grew rapidly. Her appetite kept Steve Melchoir busy but he seemed to enjoy his work.



YOU'VE heard of cattle ranches, mink ranches, sheep ranches, and dude ranches; but have you ever heard of a moose ranch? I have—of just one. It belonged to Steve Melchoir, an old sourdough friend of ours. No, he didn't raise moose for meat, nor for their hides nor horns. He raised them for zoos.

Steve is only a colorful legend now, having mushed on some years ago. But we knew him well, and many times have we seen the old corral he built athwart the main moose trail near the Kenai River, deep in the wild heart of the Kenai Peninsula. His corral had elevated gates, with a complicated system of weights and counter-weights like a Rube Goldberg contraption, so they closed after a moose entered the pen.

By this device Steve captured full-grown animals. The moose calves he kidnapped from their mothers out in



When Steve's moose ranch was flooded, he moved to town with Elsie, a young heifer he managed to save. He kept her in a corral back of his cabin and Steve and Elsie were about the most interesting tourist attractions of Seward.

the open. If you care to brave the slashing hoofs of a cow moose, reared high in the air above you, you can often drive her away. The calf crawls under cover and lies motionless, like a mouse. If you can find him, you seize him, drape him over your shoulders, and carry him away. That is, if he's very young. Steve increased his moose herd in this way.

Take it from me, they have to be caught young! If they're more than a few days old, they have strength in those little legs and are as active as crickets. You'll have a merry foot race over brushy tundra, and likely as not, you won't catch your quarry.

Alaskans have told of coming onto moose calves whose mothers have hidden them in thickets while they went off to feed by themselves. They have taken pictures of such calves, and claimed they had a hard time getting rid of them. The calves wanted to come along.

That's fine—if the mother doesn't come back and find you with her offspring. If she does, look out! She'll rear up on her hind legs and strike at you with her vicious hoofs.

The Alaska Guides sometimes catch moose calves on special permit for zoos, or for stocking other parts of the country. The Kenai moose is the largest in the world, often standing eight feet high and having an antler span of six feet.

I have been with the guides on these moose-catching expeditions. We never had such luck as to find an unguarded calf that wanted to come along. We always had to do it the hard way.

Steve had said he fed his calves on Eagle Brand milk. We didn't have any luck with that either. It seemed too sweet for them, and one of them died. We made a trip to town for some ordinary condensed milk, which we diluted and heated for our infants, and fed them by bottle. It turned out to be quite a chore. Those youngsters set up a terrible fuss every two hours, day and night. We reasoned they were

hungry, so we fed them; and we must have been right, for they never hushed until after they'd eaten. I'd never heard a baby moose give voice before; it bleats something like a lamb.

We took turns on the night shift in camp. First one, then another of us would get up every two hours all night to heat milk and feed the babies. Almost from the start they'd nibble at every bush in the corral—even wild rose bushes. Willows and birch are their favorite menu. We kept the calves in camp a month before turning them over for shipment.

Steve had told us much about raising moose calves, and except for the milk, we found everything much as he had said. But some things he hadn't told us.

It was lucky for us we'd known Steve Melchoir before we went on our moose-catching expeditions, for he was the only moose rancher I ever heard of, and he had given us many pointers about keeping the huge animals in captivity.



Those funny little gangling moose calves had definite personalities. Some little fellows were friendly and easy to manage, others stubborn as mules!



We caught a pair of twin calves the very night we established our first camp on the moose flats. We hadn't had time yet to build a corral, and we hadn't hoped for success so early in the trip. So we made little rope halters, and tied the calves inside the tent for safe keeping overnight.

Next morning we were out cooking breakfast, and I noticed one of the guides, with an attitude of disgust, carrying the sleeping bags to the lake to wash them. As soon as we'd left them alone, the calves had crawled into our beds. And the little devils were not housebroken.

Steve had told us that moose, like domestic animals, vary greatly in disposition. Our experiences proved this quite true. Those twin calves we caught were a male and female. The female was gentle, friendly, and easily handled. She even made friends with our Spaniel pup, and slept curled up beside him.

The bull calf was a stubborn little rascal! He had to be taught by main force to drink from a bottle. The men had to take him between their knees, as a farmer does a domestic calf, and pour the milk down him. He was a long time learning to take it without resisting. The little cow soon learned to come to us and coax for the milk bottle.

Instead of making friends with the pup, as his sister did, the bull calf would rush the pup, rear up, and strike with his tiny hoofs, just as the adult moose defend themselves.

Cow moose, on the whole, seem much easier to get along with than the bulls. The cows will winter near a cabin, and the sourdoughs sometimes cut down the tender tops of the birch trees for them. One guide I know has a picture of himself petting the nose of a cow moose as she stood over a pile of birch limbs.

The bulls, after they lose their horns in the fall, are likely to be cross. When the snow is deep and they cannot travel easily, they refuse to give you the trail. They stand their ground, bellowing with a deep, grumbling sound. Many an Alaska woodsman has been treed in winter by a cross old bull. Before he sheds his horns, the bull has a vicious weapon with which he doesn't hesitate to fight. In the rutting season he's especially dangerous.

IN THE spring it's well to avoid the mothers with their newly born calves. If the calf is too young to run it's mother will see that you do.

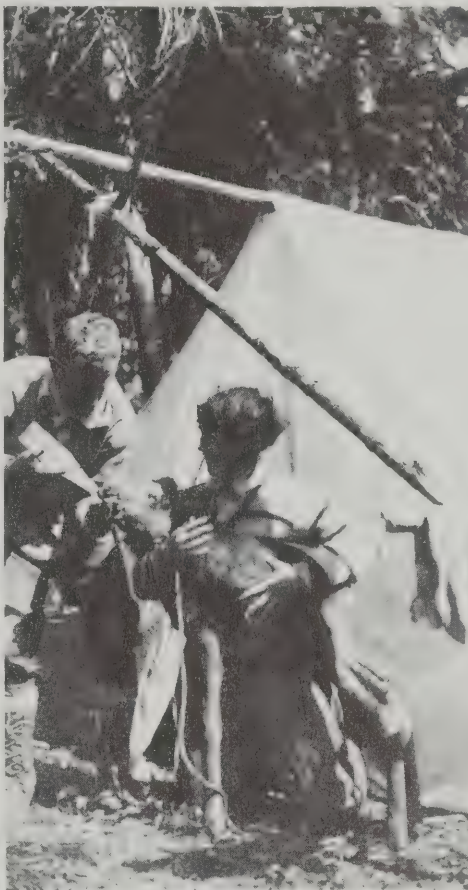
Steve told us the temperamental disposition of the moose in the wilds was not altered by captivity; so moose ranching had its thrilling moments.

Steve had a number of animals both young and old, in his corral when the big Kenai flood came. A pot hole in the glacier let go, dumping the

lake behind it into the head of Snow River, part of the Kenai River watershed. It was during the fall rains, too, and the result was an unprecedented flood—even for a glacial river.

While the water rose higher and higher, Steve tried to get his animals out of the corral to the safety of higher ground. One of them drowned. Steve had led a young bull to dry land when it turned on him. It was during rutting season, when the fighting spirit is strong. The young bull pestered Steve, hampering his rescue operations—finally it got him down. That irritated Steve so that he rushed into his flooded cabin, snatched his rifle, and shot the impudent bull.

Some of the animals swam ashore after Steve chopped down the fence, and escaped into the woods. He man-



We fed our moose calves condensed milk, warmed and diluted, from a bottle every two hours, day and night.

aged to save only one—a young heifer named Elsie.

The cabin was uninhabitable, so Steve took his half-grown moose and moved to town. He built a high corral behind his house in Seward, and kept Elsie there. So many visitors off the ships wanted to see a real, live moose that finally, in self-defense, Steve started charging a small admission fee.

Elsie soon ate all the brush in the corral. Steve cut all the handy willows and birch on the mountain-side behind him, then started going out on

the highway by dog team to haul brush. After the snow was gone, he substituted a small wagon for the sled and kept on daily hauling brush for his moose. Steve and Elsie were just about the best tourist attractions of Seward!

About this time there came quieting reports from the Russian River region, not far from Steve's erstwhile moose ranch. Tourists and fishermen who spent their vacations at Bishop's Fox Ranch kept insisting they heard bells ringing as far as ten miles up the lonely, uninhabited valley of the Russian River. They'd go to Bishop and ask if someone was taking a pack train upriver.

Patiently "Bish" would explain that he owned the only pack horse in the valley; that he had no bell; that his horse was out in the stable; and what had they been drinking, anyway, that made them hear bells where there weren't any?

THIS went on for a couple of years, until "Bish" decided to investigate. Perhaps some horse had come in over the divide, although surely he would have heard about it! Everyone for miles around knew everyone else's business in Alaska in those days.

Bishop didn't find any horse tracks in the valley, except those made by his own horse; but he did hear the weird bell far off in the distance. He began to have an eerie feeling, himself.

Nor did he solve the mystery until he made a trip to Seward for supplies and spent the night with Steve. He was elaborating on the ghost of the Russian River valley when Steve broke in.

"When did this ha'nt first show up?"

Bishop explained, and Steve burst into a hilarious guffaw.

"What's so funny?" Bishop wanted to know.

"Goshamighty," Steve choked through his laughter, "If you'd justa' called 'er, she'd come right to yo!"

"Like he'll she would! Is she a lady spook?"

"That ain't no spook!" Steve chortled, "That's my old moose cow that got away from me. That flood riz up so fast I never gotta chance to take that bell offa her neck. If you'd just called out, 'Oh-h-h-h-h, Lizzie,' she'd 'a come right to ya!"

Elsie, Steve's heifer, grew to prodigious size. Through a Seward merchant, who had instigated the moose ranch in the first place, he sold her for a good price to the Belle Isle Zoo at Detroit. Steve went with her as caretaker. He had probably not been Outside for forty years, and the impact of modern cities and methods of travel on his sourdough soul was terrific. The crew of Steve's ship told us afterward that they hardly knew how to handle either Steve or the moose!

Mountain Goats—Alive

By Louis R. Huber



Photos by Louis R. Huber

Doing intensive research on mountain goats, Martin Goresen had Mount Alice, one of the many four-thousand-to six-thousand-foot peaks around Resurrection Bay, for his laboratory. In every direction is magnificent scenery.

THE registered guides up in the Kenai Peninsula and Prince William Sound country aren't saying much about it, but a recently arrived New Goresen kept a nanny mountain goat and her kid in his basement in Seward.



Yorker has made them look a little silly. Cleaned up several thousand bucks doing it, too.

The U. S. Fish and Wildlife Service, you see, was offering nice, fat cash for live mountain goats. Wanted to transplant the shaggy, snow-white critters to Kodiak Island. Of course the old-timers were given first crack at the project. After all, they knew all about Alaska game, didn't they?

Turned out, though, they didn't.

Martin Goresen, a thirty-three-year-old ex-GI from New York State, finally caught most of the goats. To him, the honors—and the cash.

Wild mountain goats—there are about 12,500 of them in Alaska's coastal mountains—had been caught and transplanted before. First time was in 1923, when eighteen goats were caught and placed on Baranof Island in Southeastern Alaska. They multiplied to 165 by 1950, when the first open season was held and hunters shot eleven.

The Federal agency wanted to do the same thing for Kodiak Island. There are plenty of goatless crags there, and it's much larger than Baranof Island. Easier hunting terrain, too. Putting goats on Kodiak would increase Alaska's 37,500-square-mile goat habitat by 5,363 square miles.

You'd think a study of the 1923 mountain-goat roundup, when all eighteen animals were caught at one time, would help. But it didn't. Goats are scarcer now, and maybe smarter than to congregate in such numbers.

Oscar Oberg, a guide now living in Douglas, Alaska, was the maestro of the 1923 production. He spotted three dozen goats on a beach in Tracy Arm near Juneau. Yes, mountain goats get clear down to sea level at times, just as we go up into the crags to visit them.

Oberg sent helpers around and above the goats, and then put some dogs ashore. The dogs chased the goats up

the side of the mountain. As they reached the men waiting above, the goats were frightened into deep snow, tied with ropes and dragged to the beach.

It was a very successful one-shot operation, though half the goats originally sighted either jumped to their doom off cliffs or died from seasickness on the trip to Baranof Island, about a hundred miles away.

In 1950, the Fish and Wildlife Service didn't specify how it wanted the goats caught. All it asked was for bids. It would buy as many as thirteen males and twenty-eight females.

The successful bidders were the Eilderback brothers of Cordova. They contracted to catch ten goats for \$1,250. After trying ever so hard, though, they didn't catch even one.

With this failure, the Fish and Wildlife Service signed up several other "optimistic guides, trappers and other residents" who thought they could catch mountain goats. But all these, too, failed.

"Nobody has got our goats yet!" declared the Fish and Wildlife Service, but you couldn't tell whether it was a statement of defiance or regret.

IN SEWARD, Martin Goresen had tried to put in his bid on the goat-catching program. They waved him aside with a "Go away, boy, you bother us" gesture.

Finally the FWS concluded the approach by contract was no good. It opened the field to "all qualified persons," who were allowed to hunt for goats on a "revokable permit." The price for live, healthy goats-on-the-hoof was set at \$350 each, male or female.

Even then, Goresen had a tough time convincing the authorities he was "qualified." As it turned out the men behind the desks were a bit confused. Goresen was better qualified than anyone else. Catching mountain goats calls for extensive knowledge about how these animals behave, and on that subject no one can compare with Goresen.

"He's got the biggest curiosity bump I've ever seen. I've seen Martin watch a beetle for hours, studying all its movements and trying to figure out why it made them," says Carl Empey, Jr.

Carl is Martin's next-door neighbor. The two were in the same outfit during World War II. Evelyn Empey, Carl's wife, explains it by referring to Martin's boyhood.

"He missed all the beetles, birds and animals that kids usually run into," she says. "Now he's trying to make up for it."

Martin Goresen was born in Catskill, New York, on September 23, 1918. Still a child when his parents were divorced, Martin was sent to a boys' home in New York City. He didn't like it there, and when he was sixteen he ran away, heading for Florida first and then drifting through Louisiana



Coyotes and other animals roam the ridges of the Kenai Peninsula near Seward. Goresen and his partner photographed this one while hunting mountain goats.

and Texas to California. By 1936 he had reached Seattle.

"I had a hankering to come to Alaska then," he recalls. "But a California prune-drying plant was asking me to come back and work for it. I was immune to lye poisoning, and they have trouble finding people who are."

He tossed a coin. California won.

He did get to Alaska, finally. When the war came along and he got into the Army, he was sent there. He liked it so well he just had to come back. Meantime he'd been married, however, and his wife didn't want to leave California. Martin solved this problem by going North first and then sending for her. She came, but she still didn't like it. They were divorced.

You can't blame Martin for liking Seward. It's been good to him. Like other permanent residents, he has steady work on the docks. Ocean steamers call at Seward. It's a rail

and highway terminus for Interior Alaska.

Goresen bought a surplus Army building when nearby Fort Raymond was closed down. He moved it to a lot in town and made it into three apartments. It gives him a steady though small income.

When the first big goat hunt was announced, Martin knocked off longshoring for awhile and began doing some intensive research on mountain goats. His laboratory was Mount Alice, one of the many four-thousand-to six-thousand-foot peaks surrounding Resurrection Bay.

Last fall I climbed Mount Alice with Martin so he could show me just how he figured out the sure-footed, evasive animals. It was a two-day jaunt, about as strenuous as I cared for. But it was a snap for Martin. He's of medium build and wiry, with muscles like steel springs.

The sure footed, evasive goats cling to the high ledges and crags, and rarely do they allow themselves to be cornered as did the kid in the photo below.





U. S. Fish and Wildlife Photograph

Mountain goats, like the old billy above, are being transplanted to Kodiak Island by the Fish and Wildlife Service to give more hunters a chance at them.

We got to Mount Alice by driving a couple of miles out the main highway from Seward, then on to Nash Road. After winding five or six miles through glacier-flat timber, we fetched up right at the base of the mountain. We parked the car there, put on our pack boards and hit the trail. Martin carried a .375 Magnum, just in case a moose or bear should dispute our rights.

The trail was a long, slanting Cat road leading diagonally along the mountain slope, through deep forest. Tie cutters had built that road back in the '20's. After two or three miles we came to the place where the tie

cutters had worked. All that remained were a few rotting stacks of ties and a decaying sawmill.

Past this point we slogged through alternate wet meadows and woods. Martin pointed out fresh moose tracks here and there. We were climbing all the time. The meadows got smaller, and finally we came to a cabin in the woods. Some trapper had built it years ago, but it was still in good shape. There was a stove and two bunks.

"This is where I stayed last winter," said Martin. "The snow almost covered it."

We unloaded sleeping bags and food from our packs and put them inside

On the shoulder of Mount Alice where Goresen caught his first goats, Resurrection Bay is three thousand feet down and the mountain's summit is straight up.

the cabin. Then we resumed climbing. It was steeper, and I called for a halt now and then. Martin wasn't even breathing hard.

We climbed a steep watercourse, crossed a few more wet meadows and strips of woods and came to the edge of a canyon. Fourth of July Creek lay about two thousand feet below us. We could hear it roaring as it came out from beneath a glacier a mile or so up the canyon.

We were still in deep woods, but we could see across to the other canyon wall about a mile away. There the mountainside rose steeply for two thousand feet, then beveled off into rocky ridges with grassy slopes in between, dotted with alder patches. Above were snow fields, hanging glaciers and peaks.

Martin gazed for a few minutes, then took out his binoculars. "Yes, I see some goats, all right," he announced after a careful look.

He handed me the glasses and I soon made out three goats—one adult by itself, and a nanny and kid together.

"They're all pretty high this time of year," said Martin.

WE KEPT on, climbing spruce-timbered slopes as steep as a church roof, till we came out puffing into a grove of thick, matted hemlocks. That was timber line.

"Here's where I caught my first goats, right along this goat trail," said Martin as we eased into a well-worn path.

We pushed through hemlock boughs into a tiny clearing that was carpeted softly with moss and bright red flowers. It was a welcome relief to slip off our packs, sit down and contemplate the world around us.

We were on the shoulder of the mountain, up about three thousand feet. The summit of Mount Alice lay straight ahead of us and up two thousand feet more. In every direction was magnificent scenery, and we remarked, "What a place for a lodge!"

Beginning at our right we followed the compass circle around—first across the large glacier that feeds Fourth of July Creek, then along a broad wall of mountains, peaks, hanging glaciers and precarious forest that ended in a drop to Resurrection Bay. Across the bay were more mountains, glaciers and peaks stretching clear back to Seward, which was concealed by another shoulder of Mount Alice.

Up to this time the weather had been now-cloudy, now-bright. As we soaked in the beauty all around us, however, the sky cleared all over and we basked in the bright sun.

Martin was busy with the binoculars. He located two more goats across Fourth of July Canyon. He could find none on our side, however, probably because it is more easily accessible to explorers like us, and the goats just aren't that sociable.

Putting down the glasses, Martin pointed to a spot about forty feet from



where the goat trail entered the hemlocks.

"I stood there, in among the boughs, for two solid hours last winter," he said "and watched a dozen goats come down from 'way up on Mount Alice. It was a beautiful day—calm, but cold—and the goats took their time, browsing on rock scabs and moss as they came down.

"They filed right past here without ever suspecting I was anywhere near. As they went through the hemlock thicket I could hear them tripping over the snares I'd set. Never caught a single goat that time, though. My snares were set too low."

That had been his fourth or fifth trip to the timber line from the trapper's cabin. Before setting out snares he had merely to watch the goats. It was their habit, he found, to come



It takes goats a while to figure out what has happened to their freedom.

down from the heights on fine afternoons.

"They were after food. Fern roots, moss and lichens, which are more plentiful in the woods," Martin explained. "They would bed down in the woods and stay all night. In the morning they'd go back up into the crags."

The way to catch them, Martin had figured, was to set snares into which the goats would have to poke their heads as they went along their trail through the hemlock thicket. Setting the snares just right was a problem.

After his first snare failure, Martin readjusted things, looping the cord a little higher, tying it securely to hemlock supports and arranging the knots so a captured goat would not strangle.

"The next time I came up I had two goats!" he said.

As he was explaining this, Martin



Most of the mountain goats captured in 1953 were found near the head of Day Harbor, near Seward. It's a spot of fascinating beauty and wild desolation.

walked over to the goat trail and picked up something white. It was a length of white nylon cord, the kind used for parachute shrouds. This was part of the actual cord with which the first goats were caught.

While Martin was "researching" on Mount Alice, FWS men were trying to catch goats a few miles down the coast, at Day Harbor. There they had built a corral into which, they hoped, they could lure some goats. Such a method had been successful in Montana, where salt had been used as bait. But it didn't work on the Kenai Peninsula. The scent that is wafted off a cake of salt in this location is all the same to a goat as the breeze off the nearby Pacific Ocean.

Martin, of course, was plenty busy with the two goats he had just caught. One of them, unfortunately, had tangled itself up and fallen into a depression in the ground. Despite Martin's careful knots, it had choked to

death in the entangled ropes.

The other goat was in fine shape, however, and Martin approached it warily. With a rush he grabbed it by the horns. Big tussle, then? Not at all!

"That goat fainted—or pretended to faint. All the goats I caught were like that. Playing 'possum. They didn't really pass out. If you left them for a minute, they jumped up and tried to run away."

He had brought a toboggan up the mountain with him. It was easy to rope the prostrate goat's legs together and tie the animal securely onto the sled. Going down was easy, too. He made it home in a couple of hours, and put the goat in his basement for safe keeping.

That evening he telephoned Clarence Rhode, regional director of the Fish and Wildlife Service, in Juneau, to tell him the glad news. Next morning he sped back up the mountain.

"I found a kid in a snare when I

Mount Alice is a five-thousand-foot mountain with sharp crags, crevices, drifts and ledges. Goat trails are clearly visible on her unbroken slopes of snow.





Louis R. Huber

When looking for goats, Goresen always carried a packboard on his back and a .375 Magnum in his hand—just in case a bear or moose should want to argue.

got there," Martin recalled. "I didn't need a toboggan for him. Just draped him around my neck like a scarf and started down the mountain. The little fellow said 'Ba-a-a' just once."

It was dark long before Martin got to Seward, but he went down to the docks to show his fellow workers a real, live mountain goat kid. Work halted completely as they gazed in fascination.

Martin caught three more goats that winter, but one of them had been wounded by gunshot the previous fall. It lived for several weeks in Martin's yard, and would even come running when he called it, but it died before the FWS officials arrived to take the

goats to Kodiak Island.

Characteristically, Martin made no secret of his technique. He told other goat hunters how he made up the snares. Alan Hennessey promptly captured four goats the same way.

"Boarding" the goats was a problem at first, for the animals refused to eat. Hay and grain didn't interest them at all. Even when Martin dug up fern roots and moss and brought them in, the goats wouldn't eat them.

"When I stuffed the fern roots into their mouths, they still wouldn't eat—till I looked the other way. Then they started chewing—till I looked back. Seemed they were just bashful about eating in company. Eventually

A tussle of many hours on a high cliff was often necessary before goats were finally roped and tied. It's no easy task to bring these fellows back alive.

they got over it, though, and ate as they should."

The repeated climbs to the heights of Mount Alice got to be rather tedious after awhile. Martin wore out several pairs of snowshoes at it, then decided he could find an easier place to catch goats. He went out the bay to South Beach, where he'd seen a number of goats during the war.

While reconnoitering this area, Martin came upon a goat on a ledge. As far as he could see, the only way for the goat to get off the ledge was to climb up past him—so he went down. Here, he thought, he would catch a mountain goat the easy way.

When he reached the ledge, however, the goat had other ideas. Charging, it came at Martin with head lowered and needle-sharp horns foremost. Instinctively, Martin side-stepped



Sometimes mountain goats are easy to see against the lush green of a knoll.

—right into thin air!

"I turned over four times and fell about a hundred feet in the air. Then I hit a slope, grabbed at some alders, and rolled about fifty feet more before I came to a stop. The goat had hardly touched me—only raked my leg a little with one horn—but what a mess I had stepped into!"

Still conscious, he didn't know how badly he might be injured. He just lay still for awhile, pulled out a cigarette and had a smoke. Then he got up. One foot didn't work right, but he could walk on it by placing all his weight on the heel. Somehow he made it back to Seward that night. He walked into the hospital under his own power, a fact that confused the night nurse on duty.



"She thought I couldn't be hurt very much," said Martin.

After all the x-rays had been taken, however, the doctor had quite a list of injuries to report. One shoulder broken, the other sprained, a piece chipped off his spine, another off his ankle, forearm fractured, elbow smashed, one knee badly bruised and cut. He was in the hospital for three weeks. After that he recovered quickly. But not in time to catch more goats that season.

The FWS people, meanwhile, had caught a goat all by themselves. Refuge Supervisor David L. Spencer and Assistant David Klein were flying over Cooper Lake in their Grumman Widgeon when they saw three goats swimming. They landed on the water and roped in one of them before it could reach shore.

By the summer of 1952, the score in the great goat competition was: Goresen, five; Hennessey, four; FWS, one. Of these, however, all were billies except Martin's wounded nanny and one of Hennessey's. Since Martin's nanny died, the future of Kodiak Island goat life rested with Hennessey's one nanny. Then she ruined her own chances. Instead of heading at once for the crags and safety, she lingered near the Kodiak beach to chomp some choice fern roots. A bear, in turn, made a meal of her.

That left six lonesome billy goats and no nannies at all, so the FWS raised the ante for 1953 to four hundred dollars for nannies, and lowered it to a hundred for billies.

When good goat-catching conditions arrived in April of 1953, Goresen and Hennessey went out together with two helpers. They decided not to be so subtle about it this time. Renting a



After being captured, some Mountain goats were tied to a toboggan, pulled to the beach and put aboard a United States Fish and Wildlife Service airplane.

boat, they went out to Day Harbor. Goats were farther from people there.

"By locating several and slipping up on them, then making a run at them, yelling our heads off, we got one or two of them to stand and fight," says Martin. "Then we could rope them—sometimes, but not always."

It was Martin's knowledge of mountain goat behavior, of course, that enabled the four men to find enough goats in one place to use this head-on method. They finished the season with a total of fifteen live goats captured, all nannies but two.

Other hunters captured one or two goats that spring, too. By the middle of May, W. A. Elkins, FWS supervisor, was able to report that despite a few casualties there were eighteen live, healthy mountain goats on the heights of Kodiak Island—seven males and eleven females. This was enough, he said, to produce a goat population there.

With nature taking its course, it won't be long, he promised, before hunters can be allowed to begin drawing careful beads on these elusive animals. ▲

Mountain goats are rugged looking, shaggy creatures never found far from regions of heavy annual snowfall, and show special preference for rough landscapes. They feed upon scattered grasses among the rocks and vegetation.





Photos by Pete Russell

Bear Number Two got sixteen pounds of bacon and a big bag of popcorn into his belly before I got a 220 grain slug into his yellow chest.

THE dark grizzly stopped where the dog had been and, after I had worked a slug into the chamber, his bulk heaved in my direction. He had fifty feet to go and my tax problems would be over. He plowed through the willows in the frozen creek like a thunderbolt and started up my slope.

I caught the black fur of his chest in my peep sight and pulled the trigger. He bucked when the 220 grain slammed into him and rolled him over. He lay there in the snow and tried to reach me with his paws, twenty-five feet away. I finished him off with another round from the '06 and, just to be sure, one head-busting slug from my new .44 Magnum. He was the first that summer, but not the last.

I stood there for a few seconds, still a little scared and feeling lousy, the way most people do when they kill something, and found myself thinking about the advice the grizzly "experts" had been handing me since I came to Alaska, five years ago.

I said it aloud, to an unhearing wilderness, "The hell they won't charge!"

Like many of my friends, I make a hungry living prospecting in Alaska. The winters are long, cold and lean, but the summers more than make up for it. During the winters I take geology courses at the University of Alaska, at Fairbanks. It would be a pretty good life except for one thing: I am afraid of bears!

It isn't simply a healthy respect for the brutes; it's just that I am downright afraid of them. To complicate matters, I attract grizzlies every time I go into the bush. I am beginning to suspect that I smell like bacon.

Take last May, when the late snows were clinging to the slopes of the Alaska Range and the winds still had a raw edge on them. I left the gravel road they recently punched through to McKinley National Park and started to work my way eastward toward the headwaters of the Nenana River. It was my plan to prospect an area east of the Alaska Rail-

"THE HECK THEY WON'T"

by
**Pete
Russell**

road, about one hundred miles south of Fairbanks. But first I had to fight my way through a tangled spruce forest until I made it to timber line. I was to spend three months in the high country, above the trees, and my only fuel was to be the occasional willows that flanked the mountain streams.

I was carrying a seventy-pound pack, a Model 70 Featherweight '06, and a Smith and Wesson .44 Magnum. My companion was a husky called Turk, a long-legged clown I assumed would warn me if the bears got too close and would also do some of the packing when the snow was gone. Turk, I later found out, had other ideas.

We were one hour off the road, climbing all the way, sweat streaming down my tired body, and I was wondering if I wouldn't be better off giving dancing lessons for a living when I stopped, sat down and started to roll a cigarette. Turk was on the other side of the creek keenly interested in a noise coming our way. I crushed out the cigarette and grabbed for the rifle. Turk, my alarm system, vanished like my plans for the future and in his place there was the blackest hulk that ever bore the title

of Bruin. He charged, and I got him at twenty-five feet. That was bear number one.

I had a hard two-day trek ahead of me for a rendezvous with Hawley Evans, from Fairbanks, who was to air drop my gear, two hundred pounds of it, at a place called Bruskana Creek. I was almost to the edge of timber and made camp for the night. It was one of the few times that summer I was to have spruce to burn so I made the most of it and before turning in I had that last cup of coffee and that last cigarette that winds up a good day in the bush. It was going to be a good summer, I told myself, a real good one; that is, if the bears aren't all like the first one.

They were worse; they kept me guessing all summer long.

One Didn't Charge

As we left the timber the next day, I spotted a grizzly about a third of a mile away just as he stood up to get our scent. I was mentally counting my ammunition and wondering if I had enough to make it for the next two months and high-tailing it to a low, naked knoll ahead of me for a better view of him when I saw him dive into some brush and come full tilt in our direction. I slid off my pack on the crest of the knoll and put that extra round into the chamber. I waited for him. I'd have a clear shot for almost a hundred yards. I even had the .44 out and on the pack along with six extra slugs for the '06. I was using 220 grain soft nose in the '06 backed up with 56 grains of 4350 powder. I decided not to fire until he was about forty yards away for a very good reason: I am notorious for not being able to hit the broad side of a barn! I waited, and then I waited some more. That grizzly never showed up! As my fear began to ebb into embarrassment, I noticed Turk, stretched out in the sun, give a big yawn and go back to sleep.



About mid-July I moved base camp to the glacial lake, shown above, which for reasons of my own I called Shirley Lake. Black Pants called on me here and I wasn't home.

"I don't mind bears scaring me half to death," I said to Turk, "but when they make a complete jackass out of me, I get mad!"

I made it to the drop area and Hawley flew in with a Cessna 180 and strung out eleven boxes of grub and equipment where I wanted them. There are two facts you can depend on in Alaska: it will get cold in the winter and Hawley Evans will be there on time. I made a base camp and operated out of it for about a month and got in some hard prospecting. The snow was melting fast and summer was coming to the Alaska Range with warm winds and green

slopes and the inevitable rain. I was working so hard among the rocks that I began to forget about grizzlies. I went off on many little spike camps away from Base Camp Number One, and for a while there weren't even any signs. But I worried about the cache. In that there were no trees, the caches I built that summer were merely boxes of food and equipment stacked on high ground and covered with a tarp.

It was on the first spike camp that Turk showed his true colors as a pack dog. I had sewed a pack for him out of canvas and did a pretty good job of getting it to fit him. I gave him a light load

Black Pants beat me to my cache (left below), then came back to finish his work (right) and I finished him. But Black Pants had already skunked me. You can't prospect on a diet of blueberries.





The dark grizzly was the first of the summer, but not the last. If those bears had acted the way the experts say grizzlies act, they'd still be alive for all of me.

so he would get used to it, but you'd think I was torturing the animal. He found more ways to get out of that pack than I can remember. Finally I tied it on so that he couldn't get out of it, and had myself convinced that, with a little patience, he would be a fair packer that summer. I'm easily fooled.

When I crawled out of my mountain tent the next morning, Turk greeted me, as he always did, with a yawn and a keen interest in my breakfast. When I go into the bush, I don't have much with me, so I notice it immediately when something is missing. The pack was gone. There had been nothing in it, but I had nothing else out of which to make another. Turk had solved the packing problem for himself by stealing the pack and caching it. He did a good job in that I never found it. I wanted to clobber him but I was afraid that he would think I was playing with him. It annoys me to admit it, but I spent three months packing food for that dog.

Toward the middle of June, I crossed the ice at Wells Creek into a range of hills I called the Dark Mountains in my notebook. I had been peering at them for almost a month through my binoculars and, no matter what the light conditions were, they always loomed dark and ominous against the eastern sky. On the map they were dotted lines and the rock formations were almost unknown as yet. But, like the rest of Alaska, it was a friendly place.

On the fifteenth, the second air drop came through and I felt like a little kid at Christmas going through the boxes to see what the Northern Commercial Company had sent me. They had forgotten to put in the bacon in the first drop, so they put two slabs in the second. I was destined to get only five small pieces out of sixteen pounds of bacon. I was especially pleased with an enormous bag of popcorn a friend had included in the drop for me.

Two days later I packed up gear for a spike camp to Simpson Creek, tied up the cache, and forgot to leave out any more bacon than the five slices for breakfast. When I returned from the creek with water for the coffee, I saw Turk gobbling the last slice. I began to think of Turk as "The Enemy."

When I returned from Simpson Creek, about five days later, I found the cache torn open but only the bacon and the popcorn were gone. There was popcorn all over the Alaska Range! I didn't realize it then, but the convention had begun.

They came from every direction. There were big bears and little ones, straw colored and brown, and they took over the country. I later sat on a ridge and saw three grizzlies in the same valley. There were times when I walked among the snows that rimmed the orange granites with nothing above me but the stark blue of the summer sky and wondered why people lived in cities. Then I'd see a small dark speck moving on the opposite slope and I'd begin to think that city life isn't so bad after all. I don't think I would be afraid of bears



if I were hunting them, but when I am alone and my attention is on the rocks there is always the uneasy thought in the back of my mind that I might unwittingly corner one or stumble on a sow with cubs. Prospecting is more than looking; it calls for thinking, and I can't think about rocks and bears at the same time.

When we returned to the raided cache, Turk was thoroughly spooked. I scratched behind his ears and said, "We're in for it now, boy."

The smell of a bear would come in on every breeze and I watched him with his nose high in the air nervously testing the wind. I patched up the tarp that covered the cache, ate a good supper and went to bed. I had been around grizzlies long enough to know that the guy who took the bacon would be back, and soon.

I didn't realize how soon. I woke up that night with Turk's frantic but almost silent barking (he is the only dog I know who can bark in a whisper!). I poked my head out of the tent. On a glacial terrace above camp a yellow grizzly broke the skyline. The range was seventy yards and he was a perfect target. The dog bothered him, I guess, for he stood there for a few seconds making up his mind. I didn't want to kill him, but I knew he would be back if I didn't. He made up my mind for me and started into camp.

Number Two

I sent a 220 grain into his yellow chest and he stumbled, made three more galloping strides and somersaulted down the slope. He lay dead and still, forty yards from camp. Turk, of course, had disappeared when he knew I was aware of the bear. I walked over to the carcass and put another round into his head. I must say that I felt relieved. The cache was safe, at least for a little while.

When Turk showed up I told him, "You're a lousy worker, but a great watch dog." I felt sincere gratitude.

For the next three weeks the grizzlies and I seemed to have an understanding. They didn't bother the camp, and I avoided them to the point of walking extra miles and sometimes sitting on a rock for a couple of hours waiting for a monstrous berry picker to move out of an area so that I could look at the rocks. It was common to look up from my gold pan and see a grizzly trotting obliviously down the creek in my direction. I usually wound up tripping over Turk on my way to the rifle, and the bear seemed to turn inside out to go in the opposite direction, all in one motion.

One morning, toward the middle of July, I crawled out of the tent and went into a luxurious, yawning stretch only to see three grizzlies standing on their hind legs looking at me from one hun-

Turk, my companion, was a long-legged clown with his own ideas about a husky's privileges and responsibilities.

dred yards. The yawn died and I stood there for a few seconds waiting for developments. I checked the round in the chamber and began to sweat in the cold morning air. I could handle one bear with no trouble; two bears might complicate things; three charging grizzlies would be more than I could handle. Life seemed a temporary arrangement at that moment. Then they got my wind. They were three fat clowns stumbling over each other in an effort to get away. This was more like it. This was the way bears were supposed to behave!

Enter Black Pants

I worked my way west to Base Camp Number One around the middle of July. I was due back in Fairbanks in a few days and set up a camp at a glacial lake, which I called Shirley Lake. The day before I walked out to the road, I was forced to cut through a quarter of a mile of willows. Halfway through, Turk backed up and for a moment I thought he was going to jump into my arms. There was something wrong. His tail was between his legs and he had his eye on something ahead of us in the willows.

"What's up, Turk?" I asked.

Then I heard it. There was something crashing around in there that I couldn't see.

I beat down the willows around me so I could swing the rifle around and crouched low to see below the leaves. Brown fur circled me at a radius of twenty yards. I followed the sound with the rifle. Bruin couldn't get my scent, but he was trying.

My hands were wet with sweat and my heart thundered in my chest. Then I laughed. Turk was standing on his hind legs with a paw on each of my shoulders peering intently over my shoulder, keeping me between himself and the bear at all times.

Just a Little Bear

The crashing noise became more distant and I moved slowly through the tangled willows for thirty minutes before I came to open country. A hundred yards away stood a small blond grizzly with black hind feet. He was the smallest I had seen that year and I decided he wouldn't give me very much trouble. I laughed when he started to run, kicking his black feet into the air as he romped away. I decided to call him "Black Pants." We didn't know it then, but Black Pants and I had a rendezvous for one cold morning at Bruskana Creek.

I made it to the road, bummed a cigarette from a passing motorist, and walked into Cantwell. I spent a week in Fairbanks looking at the rock samples under the microscope and telling bear stories to frightfully young, young ladies. I was ready to go back when Hawley said he would have me flown in to Shirley Lake that Sunday. The pilot,

Red Williams, put me down at my camp with another month's supply of grub, gave his opinion of the country and took off. There is nothing lonelier than standing alone on the shore of a lake in the middle of nowhere and watching a bush plane disappear into the mountains.

The grizzlies were still having their convention, but for almost three weeks they avoided me as I avoided them. I saw Black Pants from time to time and sometimes I had the idea that he followed me from camp to camp. The prospecting was about wound up for the year, except for a three-day trip to the area immediately west of the Nenana Glacier, and I was returning to the base camp at Shirley Lake. I arrived in time to see Black Pants disappear into the brush.

The camp was a mess! Most of the food had been in burlap sacks, which were gone. My tarps were torn to shreds. My geology books were ripped through. Black Pants had even chewed up some of my film. Everything that could be demolished, torn or bitten through had been taken care of by my friend with the black feet.

"Turk," I said, "we've been skunked." I was shooting mad.

I managed to salvage six cans of Spam. I made the three-day trip, and Turk and I split the Spam. I like Spam, but not to the exclusion of everything else. The prospecting done for the year, I made it back to the lake. Black Pants had been there again, but there hadn't been much left for him to molest. I had food for four days cached at Base Camp Number One, only five miles to the west. I decided that I had best get there before Black Pants did.

Most of it was easy walking, but there were a few slopes that took the wind out of me and I got wet crossing a creek or two, but I made it before the sun went down. As I climbed the steep north wall

of Bruskana Creek, a cliff of about two hundred feet, I felt like a man who had come home to find his house wrecked.

Black Pants had called, and I hadn't been home.

It was the same story: food gone and the equipment torn up. I did find one can of corned beef and a can of carrots, but most of my clothes had been ripped beyond any further use. The original plan was to take four days to pack out all the gear, but there was enough food for one meal and enough equipment for one eighty-pound pack.

I decided to get out of the country the next day. When I crawled into my sleeping bag that night I felt lower than a prospector whose claim has been legally jumped. Black Pants had skunked me! I could almost picture him laughing so hard he was holding his sides with his paws, paws that were dripping with my jam and a mouth that was sticky with my food. I fell into an exhausted sleep.

I woke up to the sound of pounding feet on the turf. Something hit the tent and it came down on top of me. Turk whispered a series of barks as he lit out for far distant parts and his voice became smaller until it finally disappeared. Then I was really awake!

I had forgotten in which direction I had been sleeping and for half an eternity I plunged around in a collapsed mountain tent looking for zippers and the rifle. I found one zipper and snaked my way out with my rifle.

Exit Black Pants

Black Pants eyed me through the gray light from thirty feet. I aimed quickly. Black Pants moved one paw and I blasted a hole in his chest. He buckled in the middle and tumbled over the cliff. I ran to the edge and looked down. On a grassy ledge below me, Black Pants lay quiet.

I shouted to Turk, "Come on back, hero—Black Pants is dead."

The gravel road they punched through to McKinley Park brought a lot of country, lovely but lonely, within easier reach. Beyond the valley shown below is McKinley itself.



After I put another round into him, I dropped down to the ledge and took the picture. It was ironic, I thought, that the smallest bear in the country had caused the most trouble. Then I looked at his teeth and felt the hard, solid muscles, and he wasn't so small any more.

The dawn was coming in fast as I climbed back to camp. I pulled the sleeping bag out of the tent, crawled into it, and watched the most beautiful sun in the world come up.

That day I walked twenty-one miles with an eighty-pound pack over rough country on a diet of blueberries. The broad glacial valley dipped down to the Nenana River and I was back in timber. After a month above timberline, a tree is a friendly thing. When Turk and I came out on the road to Cantwell at the bridge that crossed the brown waters of the Nenana, I shifted my pack to the ground and waited for one of the infrequent vehicles that used the road to pick me up and take me to Cantwell. I rolled a cigarette and did some thinking.

I had made mistakes. In bear country, a zipped-up tent is a mistake. The time you spend looking for zippers in a knocked-down tent might spell the difference between a dead man or a dead bear. I had slept at a cache site that had



I worked eastward toward the source of the Nenana. Shown above is Nenana Glacier.

been raided. That is a direct request for trouble. Even though there was nothing left to eat there, a bear will return to a place where he has fared well.

My biggest mistake was thinking bears will leave you alone if you leave them alone. It isn't always true in bear country. Unprovoked bears gave me all kinds of trouble.

The hills behind me were growing

dark as the sun went down and the wind raced up from the Broad Pass country and I grew cold. But as I waited there in the gloom, hungry and minus some expensive equipment I would have to replace, I started to grin.

"Turk, do you know who I am?" I asked. "I'm the guy who killed Black Pants!"

Turk was sound asleep. ▲

In this "land where the mountains are nameless" there are plenty of places to go.

Walter Hylen



The Moaning Marauder of Cripple Creek

By W. H. "Handlogger" Jackson



Sulphide Creek, headwaters of the Unuk, emerges a full-grown, raging, silt-laden torrent from under the glacier shown above. Jack, in the photo, and Bruce spent days prospecting the barren slopes of this inanimate world-in-the-making.

SUDDENLY Bruce straightened from spreading the mountain feathers for his bed. Jack, kneeling before the simmering pot of mulligan on the campfire, froze with spoon poised in midair. The dog Slasher, lying beyond the fire, jerked his head up and with sharp, pointed ears cocked forward and nostrils quivering, peered into the gloom of the dense forest.

With held breath and ears straining they waited, listening, trying to penetrate the darkness of the evening shadows in the valley.

Only the crackle of their campfire and the subdued rumble of the turbulent river where it boiled through the canyon. From the forest, not another sound. Slasher turned a quick look at Jack, his master, then at Bruce.

"What was that?" they both asked.

It had been distant, indistinct, but as expert woodsmen, having spent all their lives in the woods, they knew this was not one of the usual sounds of the wilderness.

They discussed the various possibilities. Was it wolverines? Wolves? Too deep and too much volume. Moose? Too long drawn-out. A wild man? No. Bear?

Then it came again, a long, deep, agonized groan. The dog leaped to his feet with a low growl. The men cast hurried glances at their rifles, leaning against a nearby tree. It was more audible this time. Closer. Or was it their intent listening and tense nerves that made it sound closer?

It was the groan of something in excruciating pain, beginning loud as if in mortal agony, then a long moan

ending in a low sob, as of the last breath of a dying animal. Coming out of the dark forest in that wild, isolated setting, it was a spine-chilling sound, one to make the most seasoned woodsman grasp his gun more firmly and wish it were morning instead of the beginning of a long, dark night.

They tried to convince themselves they had merely heard it more plainly the second time. Perhaps the evening breeze from the mountain had brought it to them, and whatever was making it had not been moving toward them.

Once more it came, louder. It was definitely coming toward them. Each got his rifle and checked to see that it was loaded and in good working order, then they piled more wood on the fire.

Now silence, more ominous because

of the inky darkness of the night. The fire crackled more loudly. The river seemed more noisy, making listening difficult.

It was in the summer of 1933 that the Johnstone brothers, Jack and Bruce, outfitted for a prospecting trip to the headwaters of the Unuk River. From their home in Ketchikan they traveled by launch the seventy miles to the mouth of the river, then transferred their outfit to their river boat and began to battle their way against the muddy torrent that foamed over shallow riffles and swift rapids and through narrow canyons on its mad descent from the glacier-clad mountains far back in the Canadian wilderness.

TO THEIR generation it was a wild and little-known country, as the old-timers had passed on or moved to more congenial surroundings. Old-timers like Sam Gowan, Jake LeBrant, Harry Ketchum and his partners, McTaggart, Mitchell and Gingrass, who had fought their way up through the white water in their poling boats to the rich placer diggings on Sulphide Creek. Old-timers like Rod Elliot, whose woman could pack a heavier load than any man on the Unuk, and Ed Kerr, who had hunted the mammoth Grizzlies with pelts worth a month's wages.

A wild, inaccessible country, with its legends of gold and ferocious bears and swirling glacial water, a river whose treacherous whirlpools had claimed more human lives than the Grizzlies ever had. A region little known and therefore, to the Johnstone brothers, more enticing.

Although their river boat drew only three inches of water when loaded, it proved a Herculean task to take it up against the swift surge of the silt-laden torrent. A task of lining or poling, or both. Avoiding the cut banks with their protruding sweepers, the drift piles and quicksand and whirlpools, where one false move meant disaster, where one dared not relax an instant no matter how deeply the towline cut into the shoulder, and where, if plunged into the icy water, one seldom emerges. A back-breaking task, where every yard gained was a victory won.

Two hours from the start and they were ready to turn back and call the whole trip off, but neither would be the first to quit, so doggedly they continued. On the fifth day they reached the Blue River canyon.

Here an ancient lava flow had constricted the river to a narrow gorge between sheer rock walls. Here the yellow flood raced with incredible force, flinging itself from wall to wall, causing giant whirlpools that would suck down anything unlucky enough to get into them. Oars were only a feeble gesture against the powerful surges of the river, their poles could

find no bottom and the slippery walls were practically unscalable for lining.

Slowly and with great difficulty they worked their way up through the canyon. At the upper end it became rapidly worse. Here was the narrowest, steepest part, and time after time they were thrown back. On later trips it took the combined power of their twenty-two and thirty-two horsepower motors to get them up through that stretch of water.

By portaging their entire outfit they finally, after a ceaseless all-day struggle, won through to the comparative calm above as the last glow of sunset was leaving the peaks. Famished and exhausted, they could think only of a safe place to camp.

Ahead to the right, in the shadow of 6,000-foot Dickinson Peak, was a wide gravel bar bordered by cottonwoods. Back of them, on the banks of Cripple Creek, a clear-water stream, were large spruce trees under whose protecting branches was an ideal camp site.

After traveling on the river, a clear stream seemed most desirable. A pail of water dipped from the river would deposit an inch of mud on the bottom when it settled.

It was easy going now, and in a few minutes the boat was drawn up to the beach near the mouth of the creek, nineteen miles up the Unuk. With their camp outfit packed up to the spruce



The loaded river boat drew only three inches of water, but getting it up the swift Unuk proved a Herculean task. Bruce is poling in the photo above.

grove and their supper fire crackling merrily, they were congratulating

Bruce was kneeling on the ground penciling the location notice when Slasher flashed past him. Shown below is an artist's conception of the tense scene.

F William Gabler



Under Northern Lights

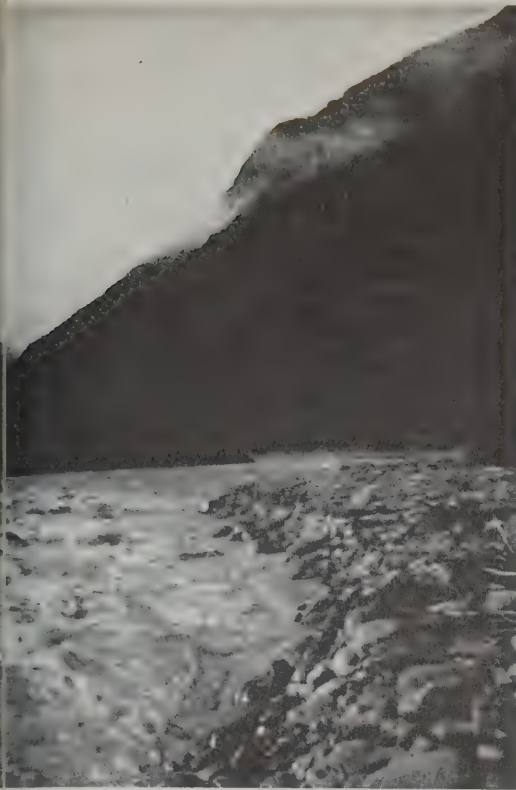


R. H. Palenske

Honkers



CHURCHILL ETTINGER



An all-day struggle took them through Blue River canyon to comparatively calm waters. To the right was a wide bar, above, bordered by cottonwoods.

themselves on finding an ideal spot to rest, when they were startled by that first pitiful groan from the shadows of

The treacherous Unuk had claimed more human lives than the vicious Grizzlies ever did. The photo below shows Blue River entering the Unuk.



the dense growth along the creek.

Again there came the dreadful groan, louder and quite distinct this time. From a slightly different angle, too. It certainly was coming toward them.

As they speculated about its origin they recalled that a trapper had disappeared mysteriously here about ten years before. It was in 1923 that Jess Sethington, a Canadian from Stewart, British Columbia, had started up the Unuk to his trapping concession on the Canadian side of the boundary for a short trapping trip. Against the advice of men who knew the country, he had started out alone. When he failed to return at a prearranged date, four experienced woodsmen had gone up-river searching for him. They had found his old camps along the riverbank up to this very spot, but then all traces vanished. Jess Sethington was never seen again.

THE two prospectors debated the mystery. No man could survive the rigors of the Alaska winters in that isolated region. Besides, this was not the sound of a human voice. They wished it would come into the light of their campfire.

Little did they dream that this mysterious moaning would plague them through three summers without their ever seeing its maker, and that when one of them finally did see it, it came very nearly being the last thing he ever saw.

Apparently Slasher saw no mystery in that hair-raising moan. The big gray police dog occasionally took his attention from the simmering pot on the fire long enough to voice his disapproval in a deep growl. His keen nose had already told him what it was, and as long as the maker kept at a distance he was not worried. He was much more interested in that poised spoon, for whenever there was food, Jack shared fifty-fifty with his dog.

It must be a bear, they decided. But never in their years of experience in the woods had they heard, or heard of, a bear's uttering such sounds except when it was being wounded. When badly wounded by a hunter's bullet, a bear may bawl loudly. In their battles for supremacy they make the forest echo with their savage roars. But Jack and Bruce were positive there was not another human being within miles, and there had been no sound of bears in battle. After considering every possibility they found no way to explain those pitiful, horrible groans.

The Unuk was noted for its big Grizzlies, and the huge footprints along the riverbank testified that they were now in big bear country. Although they were not greatly concerned by the presence of bears, knowing that the big fellows in their normal state of mind are easy to get along with, they did have a great respect for them.

Certainly the one wandering near camp was not in a normal state of mind, and would require their greatest caution. Any bear that made such a sound would be an extremely dangerous one to meet even in daylight.

Now their camp site did not seem so nearly ideal. The thought of lying down to sleep right out in the open was a bit disturbing. But there was no alternative. To start out in the boat now would be near suicide. Despite the bears, small or large, normal or demented, they would have to stay put until daylight.

AS THE night wore on with no more moaning from the forest, they relaxed their vigilance. Fatigue got the better of them and they got into their sleeping bags, depending upon Slasher to warn them should danger appear.

They awoke to find it broad daylight without there having been any further disturbance. After they had eaten breakfast they took a scouting trip back in the direction from which the sounds had come. They found the dense forest crisscrossed with innumerable bear trails, and the banks of the creek were strewn with the remnants of salmon. It was an excellent spawning ground, and hence a favorite feeding ground for bears.

There was not a sound except that of the burbling creek and distant cascades from the melting snow fields on the peaks. They could find no drops of blood along the trails, nor any place where there appeared to have been a bear fight. Although fresh bear sign was everywhere and indicated that some of the bears were exceptionally large, there was nothing different from what they would expect to find along any of the salmon streams tributary to this river.

The Johnstone brothers were not hunting bears. They were hunting gold, and they wished to live and let live so far as bears were concerned. And the gold fields were many long, hard days ahead—long, hard days of lining and poling to the big canyon, and more days of back-packing past the international boundary to Sulphide Creek.

Sulphide Creek emerges into the Unuk River valley from a six-mile-long canyon. There the waters from the melting glaciers race and roar in a mad, seething mass of yellow foam through a narrow, steep gorge with precipitous walls a thousand feet high.

During high water the roar of boulders being rolled and bounced down through the canyon is audible for miles. That is what Tom McQuillan called the "big ball mill," as the mineral-bearing ore ground from the mountains by the glaciers is ground to powder in the canyon, to emerge at the river as black sand and flake gold.

The only route past the canyon is by a bear trail high up on the face of

a steep mountain. Miles of this trail are a mere tunnel through the thick tangle of vine alder. Being the only route, it is a main highway for Grizzlies. Following it with a heavy pack on the shoulders, where visibility is only a few feet and where one misstep would send a person plunging down the precipitous slope, it is far from comforting to note the great bear footprints that are at most but a few hours old.

For protection over those trails where there is not room to swing an ordinary rifle, Jack had cut a .45-70 down to a fourteen-inch barrel. Not legal? Neither is manslaughter, a law which the Unuk Grizzlies prefer to ignore.

ABOVE the canyon in the narrow valley that nestles between the towering bulk of 8,000-foot Twin John Peak, Knipple Peak and the Unuk Finger, they found the cabin of Harry Ketchum with a plaque over the door bearing their names and the date—1902. They also found old placer workings and location posts with inscriptions of Tom Chase and DeFoe dated 1882, '83 and '84, and inscriptions of John Cashen dated 1867.

Names and dates to make one wonder how these men had found their way here, how much gold they had taken out, what encounters they had had with the Grizzlies who had never before seen a human being.

Following Sulphide Creek one day, Jack and Bruce saw a large Grizzly on the opposite bank. The bear saw them at the same time and charged with a roar. At that point the creek was so deep and swift that no man could possibly ford it, yet the bear plunged in and kept a straight course clear across.

Seeing that the bear was going to make it across, Jack opened fire with his .45-70. At that close range every bullet found its mark, but the bear came on with undiminished speed straight for them, raging mad. As it started up the cut bank right at their feet, another heavy slug tore through its shoulder and ranged back across the flank, splitting the abdominal cavity wide open. It was still pawing furiously at the bank when Jack fired his last cartridge, breaking the bear's back. With the bear still full of fight and trying to get up to them, Jack cast aside his empty rifle and emptied his Luger pistol into the animal. With a last savage growl it settled back, and was swept from sight by the boiling, muddy stream.

They were very thankful they hadn't met that fellow back in the vine-alder thickets.

There followed days of prospecting and exploring back up the valley to the three big glaciers at the head, where Sulphide Creek emerges from under the ice a full-grown, raging, silt-

laden torrent. Days of prospecting the barren slopes overlooking the glacier, where there was not a vestige of plant life and they had to retrace their steps for miles down the valley to find fuel.

Here was a wild, inanimate world-in-the-making. A land of jagged peaks, fields of perpetual snow and mighty glaciers grinding down the barren rock of the mountains to form new valleys and new soil for future vegetation. A land without a sign that human beings had ever been there before.

WEEKS later, coming down from Sulphide Creek, they camped at Boundary Lake where they found the clear-water creek teeming with twenty-inch trout so hungry they greedily took a hook baited with red huckleberries. As their supplies were nearly exhausted, they feasted on the first square meal they had had in days.

Arriving back at their river boat, they eased the packs from aching shoulders and threw themselves on the ground to rest their weary legs. Nothing to it now but slip the boat into the water and let it carry their packs, while they relaxed and watched the scenery, and the swift current carried them toward home.

After a brief rest Jack stretched his long legs and strode toward the boat. "What the hell!" he exclaimed.

"Come and take a look at this!"

Bruce scrambled to his feet and hurried over. He gasped at what he saw. A great, gaping hole was torn in the side of the boat. The seats were ripped out, the poles were in short pieces, the oars splintered. They stared in consternation.

A closer examination revealed large tooth marks that identified the marauder as a Grizzly in a playful mood.

Now, before they could venture out on the river, there was boat carpentry to do, with their only tools their camp axes and their only lumber the trees of the forest. But they finally had the boat repaired, new oars hewed out, new poles cut and smoothed.

Drifting down the river was both restful and exhilarating. As they glided swiftly past the mouth of Cripple Creek their minds were more on the whirlpools of the canyon ahead than on the weird groans they had heard there in camp that night.

The next summer found them again on their way up the river bound for Sulphide Creek. Again by the time they had battled their way up through Blue River Canyon it was time to make camp, and Cripple Creek was the logical place to stop.

As they made camp they spoke of the mysterious groaning wanderer of the midnight forest, and discussed the possibility of someday finding its bones back along the creek bank. But their dream of finding its mouldering bones that trip was soon dispelled. As soon



Their Cripple Creek cabin, above, was built to protect them while they slept. Surely the doorway was too small to admit Old Groaner's massive shoulders.

as darkness had settled there came again the same low, indistinct, spine-tickling moan, low, barely audible, a

When there was food Jack shared it with his dog. When there was danger Slasher faced it with his master.



long way off on the other side of the creek.

It moved about for some time, coming nearer so they could hear the intermittent groans quite plainly, then gradually diminishing, trailing off into the distance until they could hear it no more. Whatever it was, it must be harmless. It always went away and left them alone.

The weather being dry, they hunted a smooth spot under the spruce trees and rolled out their sleeping bags. Later that night Jack found himself awake, sensing the presence of something near. Opening his eyes, he saw nothing, heard nothing. Slowly he became aware that a place which had been a patch of light between the trees was now a solid black. Without moving, without breathing, Jack followed the outline of that black spot with his eyes. It was right at his side, towering over him. Slowly his arm stole out toward the rifle at his side.

Then all hell broke loose. There was a hair-raising snort right in his face. Slasher flew into action with loud barks. There was the pounding of heavy feet on the ground, the crashing of brush, savage growls, furious yapping, staccato snapping of teeth. Yelling, the men scrambled from their sleeping bags, and just to make a good show of it, Jack fired a few rapid shots through the treetops.

As the sounds of conflict died in the distance they stirred up the fire and put the coffee pot on to boil. They were not very sleepy just then. With daylight next morning, Jack found he

had unrolled his bed right in the center of the main bear trail.

That fall they camped at Cripple Creek again. They wondered whether "Old Groaner," as they had begun to call the weird wanderer of the surrounding forest, was still around, and whether he would serenade them that night.

Bed-time came with all the prospects of a peaceful night's sleep. But in the middle of the night they were awakened by the now familiar moans and groans. He seemed to be coming down the bank of the creek toward them. There would be intervals of quiet, then moans from a new spot. At the mouth of the creek he stopped, and for some time there was a moan with every breath. Apparently he was eating salmon, and groaning while he ate. While he was traveling there was only an occasional groan. In that manner he moved back up the creek.

Next morning they decided to make a more thorough investigation. The banks were littered with salmon and well padded by bears, but on the hard-packed trails, individual tracks were hard to distinguish. There were some exceptionally large tracks, but whether they were made by Old Groaner they could not tell. There was nothing unusual in any of the sign they found, and they did not see nor hear a bear.

Following a bear trail, they came to a place where the moss and sod had been worn down to solid rock. With a prospector's eye, they saw that it was quartz. Stripping off more sod, they saw that it was a mineral-bearing

vein of some size. They returned to camp for tools to do some digging.

On their return they had nearly reached the quartz showing when Slasher dashed suddenly into the thick undergrowth beside the trail, and there came the unmistakable sounds of a fight with a bear.

The ferocious growling and snarling, snapping of teeth, crashing of brush and swaying bush tops were only a few feet from them, yet not one glimpse did they get of the bear. Mixed in the fury of the fight were those same dreadful groans. It was Old Groaner.

IT WAS their closest brush with him so far, and yet they hadn't seen him. Where had he been when they were there a few minutes before? Why had he been waiting, concealed, beside the trail? His tracks showed he was an enormous Grizzly, but showed nothing unusual. Had he been lying in wait for them? Not a comforting thought.

The quartz vein showed promise, but before the shadows began to lengthen they moved back to the protection of their campfire.

Their next encounter with Old Groaner was during the summer of 1935 while they and their partner, George Lemmons, were going up to their mining claims on Sulphide Creek. Camped at Cripple Creek, Jack and George had gone up to the quartz showing while Bruce had gone up the other side of the creek. Not expecting to go far, interested in examining rock specimens and looking for new outcroppings, Bruce had left his rifle in the boat and wandered through the thick undergrowth of the creek bottom.

Suddenly he heard a loud snort in the thick brush close beside the trail. Bruce froze, remembering his only weapon was a .410 gauge pistol he used for grouse hunting. A single-shot gun that would scarcely kill a bird at more than ten yards.

That snort had been a bear's declaration of war. It spelled trouble. Bruce hoped it had been some other bear who had provoked it. But he saw the bushes shake as the angry bear moved toward him. The next snort was followed by a groan. It was Old Groaner. Old Groaner, one of the largest and undoubtedly the most ill-tempered Grizzlies on the Unuk, was after him.

The salmonberry thicket was so dense that except on the bear trail he could not see more than ten feet. Slasher had gone with the others. The line of swaying bushes was coming straight toward him.

Grasping at the only chance he had, Bruce fired over the swaying brush. The bear stopped. Bruce backed hastily down the bear trail, slipping in another cartridge. Old Groaner was coming again, keeping to the side of the trail in the thick brush. Another shot. Another pause. In that manner they

Up in the wilds of Canada the Unuk has its headwaters—a region all the more enticing to the Johnstone brothers because it was known mainly for its dangers. In the photo below are, left to right, Jack, George Lemmons and Bruce lining their boat upriver at Hell's Roaring Creek, near the international boundary.



moved toward the river, Bruce shooting, reloading, backing up, shooting again, careful not to sting him with bird shot and bring on a direct charge. Bushes waving violently only a few yards behind, pausing at each shot, coming again, faster, closer. Snorting, coughing, groaning. Cartridges getting low.

THE edge of the woods at last. Bruce whirled, raced across the gravel bar to the boat, snatched up his rifle and spun around for a last-stand fight. Old Groaner was not in sight. He came to the very edge of the woods, where for a full half-hour he moved back and forth groaning and snorting but never for a single instant showing himself.

Part of the mystery was now solved. Old Groaner was a Grizzly and an exceptionally big one. He was not harmless, as they had once thought. They were now certain that he had attempted to ambush them at the quartz showing, and now he had aggressively followed a man he knew to be armed.

But why did he do his wandering and groaning mainly at night? Why did he keep himself so completely out of sight? And why did he groan? These questions they discussed for hours around the campfire—questions they could find no answers for.

It was late in October when they came down out of the Sulphide that year. Frost had been in the air for weeks and the peaks were clothed in a new mantle of white. The snow caught up with them when they hit the Unuk, and the chill blasts of winter swept down the river as they loaded their duffel into the boat and started downstream.

But they were not homeward bound yet. Mining interests in the Unuk area had been increasing, and they wanted to do some work on the Cripple Creek showing.

Arriving at their old camp site, they set up their tent and started up to the claim. But a few yards up the trail was enough for them. Cripple Creek was alive with a big run of silver salmon, and it looked as if all the bears in the country had congregated there to feed. If they were to stay and work their claim they wanted a cabin. The easiest place to build one was at the cottonwood grove, where there was plenty of timber the right size and easy to cut.

By nightfall they had a satisfactory start on their cabin, and later that night they had a very unsatisfactory visitor—Old Groaner.

True to his disagreeable habit, he waited until they had gone to sleep before he started his nerve-racking groans. He had grown bolder each time they had stopped here. Now the thin walls of their tent seemed far from reassuring as his moans and groans became louder, closer.



Old Groaner had deliberately stalked Bruce to a solitary spot in the forest to make his attack. The photo above shows Bruce, at left, and Jack with the dead killer between them at the scene of his last attempt at premeditated murder.

They had prepared for his visit. They had collected a huge supply of dry wood for their fire, and very thankful they were that they had, for Old Groaner this time came right into camp. Time after time Slasher drove him off, and would have followed him had Jack not called him off. And as often, Groaner returned to the edge of the firelight. The men stood alert with rifles ready, taking turns at heaping more wood on the fire. Time after time they thought they saw him, but in the dancing shadows they could not be sure and at that close range they dared not risk a shot unless they were certain of hitting a vital spot.

At last Old Groaner returned to the forest, and not one of them could say he was positive he had seen him.

There was no more sleep for any of them that night, and with daybreak they flew at the job of rolling up the logs for their cabin. They didn't want another night like that!

It was not built with an eye for beauty and it was far from spacious, but before dark that night the four walls were up and the roof was on. A gunny sack was the door and it covered the doorway fully. Big enough for them to crawl through, but not big enough for the massive shoulders of Old Groaner. There was room enough for them to sleep, and they reasoned they could do a lot of shooting before he dug them out.

After that, with Grizzlies and salmon fighting for survival and Old Groaner serenading them by night, work on the claim progressed smoothly. But they seldom ventured far alone, and

their rifles were never out of reach.

Finally, their work done on the claim and winter settling down, they decided to call the season finished and head for home. Before leaving, Bruce decided they should put location notices on the claim. Staking a claim is customary, but not really necessary in a country where all the prospectors are known to one another and claim-jumping is unknown. With the possibility of an influx of newcomers, staking the claim seemed like a wise precaution.

Picking up his .38-72 rifle and calling Slasher, Bruce went back for a last trip to the claim. Selecting a small tree, he cut it off four feet above the ground and hewed the sides to make the required square post, then smoothed one side to write on.

Bruce was kneeling on the ground penciling the location notice, his rifle leaning against a nearby tree, the big dog lying at his side watching the bear trail.

Suddenly, with a ferocious growl, teeth bared and every hair standing on end, Slasher whirled and dashed past him. Bruce jerked his head and saw a huge, one-eyed bear, teeth gleaming in a hideously distorted snarl, just breaking cover not five yards away, and Slasher making a flying leap at its throat.

The bear paused just long enough to swing a mighty paw and send the gallant dog spinning through the air into a clump of bushes twenty feet away.

That momentary pause gave Bruce just time

to spring to his feet and in one move snatch his rifle, swing and fire from the hip with the gun muzzle inches from the massive shoulder as the bear charged full upon him, snorting its rage. As Bruce fired he leaped back with the recoil of the gun, the great bulk hurtling past to fall in a heap its own length beyond. As it crashed to the ground it gave out a loud moaning sob. It was Old Groaner.

He was on his feet again, snorting rage and defiance and turning back toward Bruce. He sent another slug smashing into the massive neck hoping to break it. The heavy lead ball smashed Groaner to the ground a second time.

But the great bear refused to die. He scrambled to his feet, bellowing in rage and pain and trying to turn toward Bruce. There was one cartridge left. Slasher was out of it. Bruce had to make that shot count.

Groaner, coughing hoarsely, was half turned toward him. Aiming low behind the ear, Bruce fired his last shot just as something flew past him. Slasher landed on Groaner's back as the big black brute sank to the ground with a last sobbing moan.

Slasher, fighting mad, tore savagely at the fallen bear while Bruce stood by with quaking knees and empty gun. There was no response from the moaning marauder of Cripple Creek. Old Groaner was dead.

Bruce went over to examine the most hideous specimen of animal life he had ever set eyes on. The great brute was covered with a thick, leathery hide with no more hair than a hog, and in places none at all. The big, deformed head had but one eye, and the place where the right eye had been was completely grown over with an ugly scar. The jaws were twisted, some teeth missing, others worn, broken, ulcerated. Truly, it was a sight to give one chills, even in death.

Bruce's examination of Old Groaner was brief. With the smell of fresh blood strong in the air, it was no place to be lingering with an empty gun. Calling to Slasher, he started for camp. The dog was reluctant to leave. After trying to shake the immovable carcass he walked around it, then started to follow Bruce, stopped, looked back and growled, dared the bear to make just one single move.

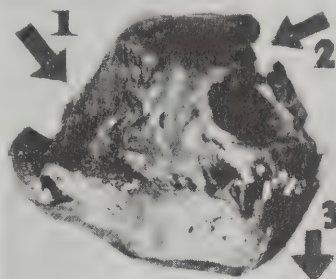
Returning with George and Jack, they examined the mysterious Groaner. Looking at his gigantic size, his distorted, scarred head and broken teeth, and the point at which he had launched his attack, they realized that he had been a man-hunter, a killer, that he had deliberately stalked Bruce so silently that even the dog had not heard him. It made them shiver to think of the chances they had taken when they thought him just another harmless bear.

It took all three of them just to roll him over. Then they found the spot, badly powder-burned, where Bruce's first shot had struck the right shoulder and ranged back through the left ham. His second shot had entered the neck.

His hairless hide was absolutely worthless. They decided to take the head along, as it was such an oddity, and the front paw to show what a huge bear it was.

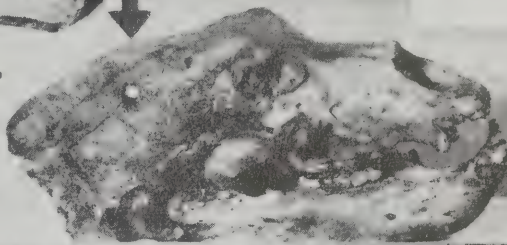
Jack started to take off the head with his hunting knife, but the thick hide on the neck was so tough he gave up and went back to camp for the double-bitted ax to finish the job.

It was when they skinned out the skull that the rest of the mysteries about Old Groaner were solved, and



LENGTH of
SKULL 17 in

BREADTH of
SKULL 11 in



Arrow 3, above, points out the spot where Johnstone's fatal bullet entered the bear's brain cavity, and Arrow 5 at right shows where it lodged in the rear of the skull after passing through the brain. Arrow 4 indicates the worn and ulcerated teeth, evidence of Groaner's advanced age. Arrow 6 indicates where a bullet from a side shot had entered just above the right eye. Five bullets were lodged in the head, and presumably had been there for twelve years!

also another mystery of twelve year's standing. Now, too, they found that Bruce's third and last bullet, the one that had finally put the old warrior down for the count, had smashed straight through the center of the brain and lodged in the left cheekbone.

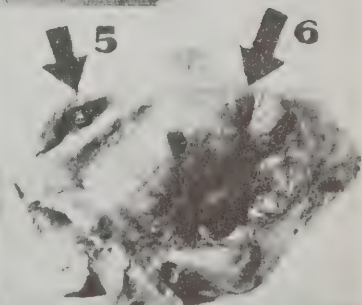
As they cut away meat and gristle the history of Old Groaner's enmity toward man was revealed, page by page. Part of the right side of the skull, including the eye guard, had been shot away by some old head-on shot. One bullet from a side shot had entered the skull above the right eye, and the bullet hole was nearly grown over. A bullet had creased the base of the skull.

But most incredulous of all was the jaw. The right hinge of the jaw had been shattered, and though completely healed over on the outside, the bones

around the hinge were porous and sloughed away so they didn't meet. They were a dark red, still infected. Around the other skull wounds the bone was healed clean and white. Back of the damaged jaw hinge, imbedded in the skull and partly overgrown, were two bullets from a .33 caliber rifle, and in the gristle under the jaw were three bullets from a .38 caliber revolver.

Jess Sethington, who had disappeared on the Unuk twelve years before, had owned a .33 caliber rifle and a .38 revolver. He had been tracked up the river by his campfires as far as Cripple Creek, where all traces of him had vanished. Picturing the position in which a man would have to be to place those three revolver bullets under a bear's jaw, they could guess only

Old Groaner's skull, shown here in front, right and rear views, is on display in The Alaska Sportsman museum in Ketchikan. Arrow 1, at left, shows where the right side of the skull had been shot away. The eye socket is almost closed and the jaw hinge is separated. Arrow 2 indicates the shattered left eye arch, probably from a bullet fired in the same encounter.



too well what had become of Jess Sethington.

The following summer, back at Cripple Creek, Jack picked up a part of Old Groaner's backbone. At some time during Groaner's lifetime his back had been smashed, and four of the vertebrae and two smashed ribs had grown together to form one solid piece of bone. The vertebrae section was eight and three-fourths inches long, and the ribs were grown together three and one-half inches from the backbone.

The front paw measured ten inches across. It was mounted by Mrs. Josephine Matney, and is still in her home on the Matney Ranch at the mouth of the Unuk. The ossified vertebrae section is on display at Harry Cowan's sporting goods store in Ketchikan.

WHAT really happened to Crist Kolby? This was still the chief topic for speculation whenever trappers and hunters got together in Ketchikan when I returned there in the fall of 1939.

Kolby was an experienced trapper and a good woodsman; yet had gone off on his trapping expedition the previous February, with plenty of supplies, salt enough to cure a hundred skins, good health, and a good gun—and had never returned.

Kolby had been working from the Hanson cabin, about ten miles up Thorne River, on Prince of Wales Island. He knew the district well, having trapped it before. He was single, and he lived and trapped alone. He was about forty years old, and in top physical condition.

Considering his experience and his health, and the fact that he was always well armed, Crist's friends were not satisfied with any theory that he must have met his end by some accident; and it was hinted more than once that foul play might have had something to do with his mysterious disappearance.

"Wouldn't it have been easy," they'd argue, "for someone to sneak up and shoot him, and bring in his catch as their own? No one would ever know the difference. No one would know unless . . ."

And so it was that, in July, W. R. (Red) Irwin and Michael Wells had been detailed by the United States Commissioner to go out to Thorne River and look for Kolby. They had found his camp in perfect order, with indications that he had left it intending to stay only a day, or possibly overnight. March 2 was the last day marked on the calendar in the Hanson cabin. That must have been the last day Crist Kolby used it.

Irwin and Wells had searched the nearby area as well as they could through the leafy brush and tall summer grass, and had found his rowboat at the mouth of a creek across the small lake from the camp, which seemed to indicate that he had gone up that creek but never come back.

Realizing that further search at that time of year would be fruitless, they had brought Kolby's effects to Ketchikan, and Irwin was appointed administrator of the estate.

Hearing these details and all the speculations that were set forth by the missing man's friends, I became greatly interested in the case. I had known Kolby only slightly; but aside from personal interest, I was curious, as a woodsman, to know what could have happened to a strong man well qualified to take care of himself in the woods.

Could it have been murder? The theory was remotely possible. Bears or wolves might have attacked him, although it had been rather early for bears to be out of hibernation, and there are many who claim that wolves will not attack a human being. Perhaps he had been drowned, or had met with a serious and disabling accident on the trail.

Whatever was the cause for his disappearance, I decided to find it out. Kolby's friends were in favor of sending out a searching party, with provisions to last at least a month, for an

Kolby's clothes, all badly torn, were scattered under the trees. The belt was still buckled, and when Miller found it, the gun, surprisingly, was in its tooth-marked holster.

exhaustive investigation. The Commissioner gave his approval of the plan since the cost could be defrayed by the estate.

This seemed the best time of year to carry out such a plan, it being after the summer's vegetation had died down, and before winter's snowfall. And so we lost no time in getting started.

Because of my thorough knowledge of the Thorne River country, I was to head the party. Victor Hautop, a close personal friend of the lost trapper, and a crack woodsman, would join me. W. A. Miller, an experienced river man and beaver trapper, and



While there had never been actual proof of wolves attacking and some had not escaped. Dead men can't tell how they died. Kolby

WOLVES KILLED CRIST

Max Walker, a friend of Hautop, and an expert cook, would complete the party. We spent a few days gathering up equipment and supplies, and interviewing Kolby's friends for any information that might help us. People were very cooperative in talking to us, and warned us, among other things, to be sure we weren't mistaken for bears in the woods during hunting season.

We left Ketchikan on Saturday, October 28, in Vic's thirty-foot trolling boat. We carried a river boat, and an eight-foot punt for use on Thorne River and the small lakes along the shores of which we planned to search, and some halibut gear that could be used in dragging the lakes for the missing man.

The four men crowded the cabin of the troller beyond its capacity. A storm was brewing, and we were more than glad to drop anchor in Thorne Bay, at the mouth of the river, at about eight o'clock that evening. We had to build a gridiron on which to beach the boat for the duration of our search, and it was two days before we could finish the job and start up the river.

THE river was very high from the storm, and the drenching downpour kept us soaked to the skin as we poled and lined our way the ten miles up to the Hanson cabin. Regardless of the rain, the trip for any other purpose would have been a real pleasure. Thorne River is the largest stream on Prince of Wales Island, flowing through a beautiful valley which seems amazingly remote from civilization. The forests seem alive with birds and animals, and the water is teeming with fish. I have never talked with anyone who has made the trip up this river who did not mention a wish to make it again.

The Hanson cabin, built of hemlock logs, is about ten by twelve feet in size. It had only two bunks, and as we had only one cot with us, one man slept on the floor until we could make another bunk.

We reached the cabin at about four-thirty on Monday afternoon, tired and hungry, and drenched through and through. While we packed our duffle to the cabin and cut firewood, Max got busy with the grub and soon had a first-class hunters' dinner ready for us.

After dinner we discussed the situation and made plans. I told the other fellows about the things I had learned from Kolby's friends, and someone remarked that on Crist's last trip to town he had mentioned that he was "doing all right."

Suddenly Max noticed that a piece of firewood, behind the stove and right in line with the one window, had been cut with a knife, just as if a bullet might have been removed from it.





C. H. Bennett

killing a human being, many men have narrowly escaped. Perhaps not escaped, and the story of his death was written beside the lake.

KOLBY

BY W. R. SELFRIDGE

Our suspicions were immediately aroused. "Looks like," Miller said, "maybe someone sneaked to the cabin after dark and shot him while he was cooking supper."

We searched for chips or anything else that might indicate that a bullet had been cut from that piece of firewood, but found nothing.

"Suppose we hang up a hunk of venison and try an experiment to see what would happen?" Vic Hautop suggested. We thought that would be a good idea, and agreed to try it if we found nothing definite in a few days.

The next morning we fixed camp, and the boys looked around a bit while I went out and shot a fine young buck for camp meat. The following day, we decided, we'd go upstream about two miles to Thorne Lake. The trip was easier to decide upon than to make, however; for the creek was very high, and we had a hard time going up the west side. We couldn't cross the creek again after we passed a log jam about half a mile up from camp.

We went first to the small lower lake, and searched its shores around to where the creek from Thorne Lake enters it. Then we followed the creek on up to Thorne Lake. On the return trip, Miller and I managed to cross the creek on an old beaver dam at the foot of the small lake. We went down the east side, while Vic Hautop searched the west side. On comparing notes back in camp, we decided that it would be best to take the small boat up the east side of Thorne Lake. It was more level than the other side, and had some open muskeg country which would be easier to get through than the timber.

On Friday we packed the punt up to Thorne Lake. Vic strapped it to his packboard; and although it was cumbersome and unwieldy, it was not too heavy for a couple of experienced woodsmen to handle. Miller and Vic "spelled off" with the load, while I went ahead brushing out the trail with a home-forged brush knife made from a piece of a cross-cut saw. After awhile I asked the boys if

they'd like me to carry the boat for a change. "Nope, Bill," they declined. "You're doin' fine. Brushin' out a trail in this here kind of growth ain't no daisy-pickin' expedition!"

We came to a small lake just before noon, and launched the punt. We searched its shores thoroughly before going on to the lake we'd visited the day before. Finding only a rowboat that had probably been there ten years, we packed the punt on down to the little lake below Thorne Lake.

After a careful scrutiny of the shores, we dragged the punt upstream about seven hundred feet to Thorne Lake. We had only a couple of hours to spend there, so didn't get to the head of the lake.

SATURDAY was so rainy that we decided to take a day off.

The other men stayed near camp, but I hiked up the West Fork. While I was out, I found where someone had camped just above our camp. I called the boys, and we examined the site with increasing doubts. It was impossible to tell just how long ago the camp had been made, but we were positive that it was since Kolby's disappearance. Had someone, we wondered, camped there in the darkness until a light showed at the cabin, and then crept down and shot the trapper as he cooked his lonely meal? The theory was neither impossible nor implausible.

I suggested that it might have been a fisherman's camp, but the others wondered why, in that case, the fisherman hadn't reported the condition of Kolby's cabin, with its evidence of unplanned abandonment. Miller declared that some fishermen didn't have enough "woods savvy" to read signs when they saw them.

On Sunday morning Vic Hautop, Miller, and I went to the lower end of Thorne Lake. Vic and I were to work to the eastward and examine the lakes on another creek, while Miller took the punt and searched Thorne Lake.

Vic and I found an old cabin near a lake on the east creek, but it was set well back in the woods, and we decided from its appearance that it hadn't been occupied since 1926, as that was the latest date on some Saturday Evening Posts that were scattered around on the floor.

Further search revealed an overnight camp that someone had used rather recently, and we found some beaver houses and a dam, but no traps or evidence of any activity that Crist might have carried on in the vicinity.

We returned to our camp at about four p. m. and Miller, who had returned earlier, came across the little lake to get us.

"The damndest thing!" he greeted us. "Here we come out

Kolby had been working from the Hanson cabin, about ten miles up Thorne River, on Prince of Wales Island. The cabin, below, of hemlock logs, was built by Jim and Ulrick Hanson about twenty years ago. Our suspicions were aroused by its appearance.



to find out what happened to one man, and now this afternoon I find what's left of another guy!"

We were startled, to say the least, and demanded immediate enlightenment.

"Well, I was going along the upper part of Thorne Lake," he explained, "and I went ashore just above where we left off looking Friday. There was a coat with some cartridges and a bottle of beaver scent in the pocket, and some bones, and more clothes. I picked up a watch and a revolver, but I left the rest there, like we said we would, until everybody saw it. Gosh, wait'll you see it!"

WE wanted to know why he thought the remains were not those of Crist Kolby.

"Well, for one thing," Miller replied, "I found this gun there, and there was cartridges in the coat pocket. Now, you fellows know that no woodsman like Kolby's gonna get ganged up on and killed by a bunch of wolves while he had a gun. And this guy was done in by wolves! There's teeth marks on that gun holster, and they weren't made by no beaver! Besides, this gun's all rusty and it doesn't work. Vic says Crist had a .357 Magnum revolver in first-rate condition. No wolves could ever get Crist unless he lost his gun or busted it, or ran out of shells, or somethin'."

All this was delivered in great excitement, while Vic and I just stood and stared, wide-eyed.

But at the cabin we examined the things Miller had brought in from the scene of the horrible death of some unknown trapper. We were all positive, and we had all had enough experience to know, that the tooth marks on that holster could have been made only by wolves.

"But," Hautop said, "you fellows got to remember that these teeth marks could have been made by wolves after the man died. Maybe the wolves were just worrying the leather parts. Maybe this guy got lost and died of starvation, or he drowned, or something. Let me see that gun!"

Miller, Walker, and I sat quietly, puffing on our pipes and thinking, while Vic worked slowly and with great pains, removing the rust and dirt from the battered revolver. No sounds but the hissing of the gasoline lantern, the patter of the rain on the roof, and the drip from the eaves accompanied Vic's patient work.

We watched intently while he took a small screwdriver and removed one of the wooden grips from the frame of the gun, exposing the mainspring and working parts. I started from my stool at what I saw, and Max let out a grunt.

There, under the hard, white glare

from the lantern, we saw the tragedy.

"Well, boys, there you are." Vic's voice was low, and we could feel the undercurrents of restrained emotion beneath his attempt at calm. "Cleaned up like this, I'd know that gun anywhere. I guess we've solved the mystery of the disappearance of Crist Kolby."

I reached out, took the gun from Vic, and pried with my knife blade at the rusted ends of the mainspring, broken and useless.

We all left camp at eight the next morning—November 6—and reached the fatal spot at about 10:30. Before our eyes lay mute evidence of the quick and dramatic death of a brave but unlucky man. From the scattered clothing and bones, we could easily reconstruct the scene which had taken place that day in early March.

Crist was returning to his base camp, traveling on the ice of Thorne Lake, which was easier going than through the timber. He knew his revolver was out of commission. Suddenly the wolves appeared, and Crist figured that, without his gun, his only hope was to run to the woods and climb the nearest tree.

He discarded his knapsack on the ice, and made for the woods. But the wolves were too close. One met him at the edge of the ice, and seized his coat by the right shoulder. Crist struck at the murderous beast with his skinning knife, but lost the knife in the struggle. Somehow, too, his coat and the wristband of his shirt were torn off.

Desperately, Crist ran for two trees about fifty feet from the struggle. If he could only make it! Just under one tree, another wolf attacked, and this time its fierce fangs found their mark before the victim could tear away and reach the safety of those low branches!

We stood for some time as if watching helplessly while that bloody drama was re-enacted before our eyes. My tongue felt swollen, and ached in my throat as I thought of the panic, the desperate struggle, and the anguish of those few moments before a human soul was sent too soon to its maker!

FINALLY Vic Hautop voiced one thought we all clung to. "One thing sure, Crist didn't suffer long! They tore him right up!"

We examined the scene carefully. By the water's edge was the coat, torn at the right shoulder, and the cuff of a shirt sleeve. The skinning knife, with large tooth marks on the handle, lay nearby, and the bones of one arm were about three feet out in the water. Could that arm have been torn from its socket during the first attack, when the coat was torn off; or had a vicious beast dragged it out upon the ice, away from his fighting, snarling companions?

The clothing, all badly torn, was scattered around under the two trees fifty feet from the shore. The belt was still buckled. From the holster of the belt Miller had removed the gun. In the pockets were a pocket knife, a compass, a matchesafe, and a bottle of anise oil, for scenting beaver traps. The sheath of the skinning knife was near the clothes.

Scattered within a radius of a hundred feet, we found the bones. All but the skull were chewed and broken, and only parts of the larger bones were left.

After a close inspection of the scene, we took some snapshots to show the Commissioner, and gathered up the clothes. We put the bones into a clean canvas bag we'd brought along for the purpose, and went back to the Hanson cabin.

That night we discussed the evidence. While no one has ever actually seen wolves attack and kill a human being in this country, there is more than one stirring tale of wolves about to attack when the victim climbed a tree or otherwise escaped. What if they hadn't escaped? Many a man has disappeared in the woods, and dead men can't tell how they died.

We know that animals can tell by a man's scent when a man is afraid. Crist knew his gun was useless, and of course he was afraid. Then, too, in late February and March, wolves are bolder than usual, anyway. It is mating season, and they run in packs. They are very likely to be hungry, for at that time of year, deer are about the only available food.

All other theories failed to explain the whole of the evidence. There was no indication whatever of an accident or murder. We had searched carefully for bear spoor, but there was no sign that a marauding bear had been anywhere near the scene. If he had been drowned, and his body floated to shore later, no wolf could have pulled the coat off the rigid body in the freezing weather without tearing it to pieces.

And why would most of the bones have been fifty feet or more from the torn coat and the skinning knife? The sheath of the knife had been with the clothing. No animal could have taken that knife from the sheath and down to the lake shore. No, Crist had taken it out to defend himself.

We were absolutely convinced that our conclusions were the only ones possible, and that here, at last, was a clear case of a man having been attacked and devoured by wolves.

The next day Miller made a sign board, and we fastened it to the tree under which Kolby had met his death. Our humble monument reads:

IN MEMORY OF
CRIST KOLBY

Killed and ate up by wolves in
March 1939. Found Nov. 5, 1939.

Mixed Bag

by Hal Waugh

DISCONSOLATELY I stared through the tent flap at some of the finest hunting range in all Alaska. We were camped on the South Fork of the Kuskokwim, a glacial stream originating in the Alaska Range. Its maze of silty channels crossed and recrossed, giving it a braided effect.

This was to be a real back beyond,

twenty-one-day mixed bag hunt in an area unexcelled over the last fifty years. Somewhere up there, grazing on the hillside, was a fine ram with a full curl that J.R. Baker meant to hang on his wall back in Donophin, Missouri.

The ram was there, all right, but we were in the valley and J.R. had a lame knee.

- A fine specimen of the mountain grizzly used up his luck that day. J. R. was jubilant as a sourdough who'd found two nuggets in his pan.

Photos by the author



"Why did this have to happen to me?" I groaned to Fleming Clemson, my packer and friend of long standing. The old-timers that J.R. had come for, the ones with the trophy heads, stayed in the remote areas where man's foot seldom steps. Knees had to be in good working order to cross the muskegs, reach the foothills and climb above timberline. At least, Fleming and I thought so.

"Maybe it won't last long," Fleming said hopefully. "A little liniment might fix it right up."

Mentally I rummaged through my possible bag for liniment. Some people had faith in its healing properties. We used to use it on horses.

J.R., in his early fifties, was a real estate broker in his work-a-day life, a hunter by avocation. It was up to me to show him the kind of trophies he was here for. He was to show me something before the hunt was over.

The weather was friendly next day. Feverishly, in our desire to be off and away, we did our routine camp chores. We'd pack over to one of my spike camps, a sure-fire location for sheep, sometimes grizzlies, and a few black bears.

We Spot Sheep

Fleming and I carried the bare essentials of food, sleeping bags, camera and ammunition. J.R. hobbled along beside us. High on a mountain slope, looking closer in the clear atmosphere than it really was, I spotted a band of grazing sheep. They looked like scattered white boulders or tiny snow patches. J.R. raised his glasses.

"Thirty of them!" he cried.

"Ewes and lambs," I told him, "and a few immature rams. We keep them there to whet your appetite. Tomorrow we'll have you up on top where the old gents hide out."

As the day wore on we skirted the shore of a small lake, climbed a ridge and stopped for a rest. With binoculars we watched a distant grizzly dig for mice. After another short hike we settled down for lunch and a midday nap.

"Couldn't have slept sounder in my own bed," J.R. said as we began stirring.

"It's part of the daily treatment," I told him. "Some hunters don't want to



● The ram was there, all right, and J.R. went up to claim him. Fleming was along to help carry him down.



● We found the black at the end of his bouncy trail. He was well-furred, prime and powerfully built.

bother with it at first. They come to hunt, not waste time sleeping on a mountain. Before long, though, after the city blood thins down, they're the first ones down and the last ones up."

On reaching the spike camp we erected the crawl-in type tents and lean-to. Fleming and I shared one tent. J.R. took the other. We were content to roll into our sleeping bags early, after a hasty meal.

Night sounds took over the mountains. Some time later, while a procession of disjointed thoughts and visions was going through my mind, Fleming reached over and poked me. I lay still, trying to bring myself back to reality.

Something was thumping through the willow brush within feet of the tent. There was a snuffling, a snorting, with a breathiness to it. Brush cracked as this noisy creature worked from the side of the tent around to the back. With the continuing breathiness there was a menacing growl.

"A grizzly," I whispered.

I made no move. Grizzlies mind their own business—or do they? My skin tingled as I remembered pictures I'd seen proving that they don't always. Several years ago a Fish and Wildlife Service stream guard shot a brownie from his sleeping bag. He dropped it half in and half out of his tent door.

"When he identifies the man scent he'll go away," I whispered with faint conviction. "I'd hate to try shooting a bear in this darkness. Besides, the season isn't open."

Minutes dragged on. The bear didn't go away. There were minor crashes, loud in the night air, and the gurgling growl continued. Evidently he was trying to get at our food supply.

Finally I unzipped my bag, fumbled about for some tin pans, and handed them to Fleming. I found some more for myself, and we set up a barrage of pan rattling and loud talking that should have scared any bear over the next

● A beautiful little mountain lake at base camp yielded grayling. This is a hunting area unexcelled over the last fifty years.



ridge. We paused and strained our ears. The bear was still there.

Shivering, we slipped back into our bags, but we were not to sleep for a while. We tried once more, unsuccessfully, to scare off our visitor. He left when it suited him.

"How did you like having a bear in camp in the middle of the night?" I asked J.R. by way of a good morning.

"What bear?" he demanded. We had to show him tracks to prove we weren't kidding.

Bacon, eggs, hot cakes and coffee cooked over the open fire finished waking us. We were out of camp as soon as it was light enough to shoot. Our route led around the mountain. We gained altitude steadily, all the while keeping a sharp lookout for rams. Each time we paused to rest we used binoculars.

The fork of the river downstream was the location of an early roadhouse. Spring torrents and undercuttings have swept the remains away. The old trail was a link between Cook Inlet and the waters of the Kuskokwim, which flows into Bristol Bay. A lot of history is locked in this uninhabited area.

It is wonderful country for sheep—few hunters, and only a smattering of wolves.

"There are two up there waiting for us," I said, "just below the rock cliff."

J.R. swung his glasses about. "How good are they?" he asked hopefully.

"Can't tell too much from here, but my guess is at least one has a full curl. More likely both of them. Can you make it up there to claim one?"

"No reason why not," he answered testily. "What are we waiting for?"

Before we could start our ascent we had to go downhill, cross the drainage, and pick our way precariously up the slope diagonally to the feeding sheep. They would be out of our view, but with a normal amount of speed and good luck we could come out above them in a couple of hours. I had taken rams on this mountain before, and could eliminate time-consuming digressions. Sheep aren't particularly fickle. They'd stay around for a while.

Using brush and convenient boulders, we moved steadily until we arrived at a point that should put the rams below us. Snaking along on my stomach, I raised my hand in warning as I caught sight of the two beautiful creatures placidly lying down surveying the country below.

J.R. was right beside me. "You're in luck," I whispered, lowering my glasses. "They're both full curl. I think the horn is broomed on the . . ."

Before I could finish, a dislodged rock had both rams on their feet. One to the left, one to the right, they broke into their characteristic bouncy run.

J.R. fired two quick shots from his .760 Remington '06. The ram on the right collapsed, while his confused partner halted and stood broadside to us. He

couldn't figure out what was happening in his little world. I tossed a rock at him and told him to be on his way, forever wary of man.

"You've got yourself a dandy Dall," I told J.R. over the carcass. "When you see that full curl headdress on the wall of your trophy room back home, you can remember this windswept peak with the rain beating down on three chilly mortals, struggling to get off the mountain. Smell the rain in the air?"

"I'll remember a lot of things," J.R. retorted, "but mostly I want to remember how good the chops taste. You boys don't have to keep me on a perpetual diet. When do we eat?"

The rain began to fall. It increased steadily while Fleming and I did a hurry-up job of fleshing, quartering and pack-lashing. The mountaintop is an awesome place at any time, and particularly during an August rainstorm. The thought of camp appealed to us all.

We'd filled only part of J.R.'s bag. He was to remind us of it sooner than we expected, considering that bum knee he might have nursed for a few days back in the main camp.

"Don't think I don't appreciate this good fishing and your fine company, boys," he goaded, "but if it's all the same to you, I'd rather have it out yonder somewhere. You've pacified me with steaks, chops, grayling, spruce grouse and ptarmigan, fried, roasted, broiled and boiled. But what about my moose? Where's my caribou? My grizzly?"

"You have a point, J.R.," I told him, "but I have to admit your moose and caribou orders can't be filled—not right now. The mild weather has worked against us. They won't come out of the high country while it's mild. The grizzly is a different proposition. He's around, but the opening day isn't."

Nervous Grizzlies

For several days I had deliberately kept our party out of the hills surrounding camp, to keep from scaring off any of the wily, highly intelligent grizzlies. They were not fair game until September first. We had seen a few moose and caribou, but the outsized old bulls just weren't around. They were back in the hills and canyons. The rut would be slow to get under way. Better trophy hunting doesn't come until the bulls collect in the lower valleys, and the hunter has a chance at numbers rather than solitary bulls.

Fall shades of yellows, reds, greens and browns blended into a riot of colors. Sharply etched mountain peaks pierced the clear blue of the Interior skies. Puffy white clouds drifted by. We set out one brisk morning to find a high knoll with a view of the muskeg flats, the timbered expanses and the surrounding hills. It was a tough climb for all of us, but J.R. stayed right with us. He wanted a grizzly, and no trick knee was going to stop him.

We looked for a grizzly. We were always looking for a grizzly. All about us

- The South Fork of the Kuskokwim originates in the Alaska Range. Its maze of silty channels cross and recross in a braided effect.



was an abundance of feed, and sufficient cover to please the most discriminating of animals. A gentle breeze was coming down the mountainside. It was hard country to hunt, but on this day a certain male grizzly was to use up his luck.

When we first saw him he looked like a dark ball rolling through the brush. He stopped here and there at an especially appealing berry patch, then rolled on. I looked at J.R. His face appeared to puff out in eager anticipation.

"He's a beauty," I told him, "a regular mountain grizzly. They sleep too long to grow very big. The climate is against them. There's no telling what a bear will do, so we'll have to get right after him. Stay right with me, and when I tell you to shoot, be sure to take your time and make it good."

No Nap for Bruin

Veering to the left, we followed low on the side of a ridge. After covering about a hundred yards, we stopped and noted that the bear had stopped too. Evidently he planned to bed down right in our line of approach—unusual luck!

"Take him!" I whispered.

J.R. fired. The impact lofted the bear sidewise. He lay with all four feet pointing toward us, like a dog asleep on his side. J.R., so jubilant he forgot all about his bad leg, was on his feet dancing a jig with the exuberance of a kid. That's when the bear flipped, and in the next instant he was gone.

I scrambled up the ridge to the spot where the bear had fallen. "He's hit hard," I told J.R. when he joined me. "See the blood? I don't think he's gone far. . . There!" I pointed to a patch of brush about seventy yards away.

J.R. fired and the bear disappeared again. There was silence. A bird flitted from a nearby bush. Somewhere, far off, a raven called. Somewhere, close by, was a wounded grizzly. I motioned J.R. to move beside me but several feet away, and we made our way to the spot where I'd seen the bear disappear.

"Stay here and cover me," I said. "I'm going down." He looked as if he wanted to give me an argument, then, realizing it was better this way, nodded.

Prickly Pursuit

Inching my way through the brush, I checked my safety. The hair on my head raised a bit. Every year, somewhere along the line, I manage to find myself in a hair-raiser like this. Cautiously I picked my way, all senses alert.

Several yards farther on, I spotted a dark heap. It was J.R.'s grizzly, dead as yesterday's cigar ash. J.R. limped up, and we sat down for a smoke. There was lots of time now to look him over, admire him, examine the wounds for bullet damage. How he managed to move after the first shot is a wonder, for his wound was at the top of his neck just in front of the hump, and

included the spinal column. The second shot had caught him in the brain.

Again J.R. was as jubilant as a sourdough who'd found two nuggets in his pan. But like that sourdough, who wanted more gold for his poke, J.R. wanted more game for his bag. But the days were passing all too quickly. For three mornings we'd found ice in the water bucket.

We kept on a vigilant search for trophy moose and caribou bulls, enjoyed watching bands of grazing sheep, were entertained by an old cow moose that forced me to shinny up a cache, and watched a feeding grizzly.

"Sure wish he was a big old blackie," J.R. was muttering to anyone who would listen. He was putting the final touches on a mess of grayling he'd caught in the beautiful little mountain lake at base camp.

"Blackies don't reach longevity in this country," I told him. "Too many grizzlies. When we do find a gambler, he's glossy black and nice. Let's concentrate on blackies these last few days. Then if a big bull moose bothers us, we'll take him too."

J.R. grinned. He really wanted a black to go with that fine grizzly. I had hopes, but we'd really have to hunt for it.

As we traveled north on a game trail that gradually led us high onto a mountain, we paused frequently to look for blackies. We'd done the same thing the day before, but succeeded only in getting a good workout. Today we had an added pair of sharp eyes, for Larry Keeler was with us as packer. Larry has the kind of imperturbability about him that's needed in school bus drivers or country mail carriers.

I was prepared for Larry's casual observation when he drawled, "There's a blackie in the berry brush beyond the slide."

I picked him up immediately. The wind was in our favor, and the bear was far enough away for us to make a good approach. One thing was for sure—J.R. would have to get on the move, bad leg or no. Blackies in this country are where you get them, not where you first see them.

"He'll disappear as fast as a paycheck," I told J.R. as I strode off, leaving him to keep up as best he could. Larry came along behind. We had a fair cover of brush. Sooner than I expected, the bear appeared on a little finger ridge, ambling downhill, broadside to us. I ducked low and waited for J.R. to come in close. Any vagrant breeze would send our quarry scurrying for brushier parts. I signaled to J.R. to shoot. It seemed interminably long before I saw the black tumble forward end over end, and heard the crack of the gun.

"Hit him again!" I shouted, and J.R. squeezed off the second shot. The bullet struck the dirt. The bear tumbled on.



● "Ewes, lambs and a few young rams. We keep them there to whet your appetite."

J.R. connected with the third shot, and I felt reasonably sure no bear would reach the valley floor and take off after all this one was going through.

We started down and found him dead at the end of the bouncy trail. He needed some cleaning up, but he was well-furred, prime, and a powerfully built animal.

"When I quit learning, I'll quit guiding," I said when J.R. hobbled up. "You and blackie, here, have taught me another lesson." I held out the bear's right foreleg. "This leg's been broken and healed over. He's got a bulky, stiff elbow, but he was getting around okay and I didn't notice anything abnormal about his gait."

"And how do I fit in?"

"Well," I admitted, "when I saw that limp of yours, I was plenty worried about how you were going to get around to bag your ram, and your grizzly, and blackie, here."

J.R. snorted his disgust while Larry and I skinned the blackie and packed the skin back to camp. He told me then, and he has told me at intervals since, that no knee was going to hold him back from a hunt—and it hasn't. He was back the next year for his moose and caribou, and when, after hunting in Idaho, Mexico, Spitzbergen and Colombia, South America, he got ready to go to Africa, he took me along. He wasn't worrying about the knee, he explained, but he wanted his African trophies to measure up to those he got in Alaska. ▲

Mysteries of the Salmon

By V. J. Boucher



Mac's Photo Service

To know the salmon is to respect them, for here are creatures which can be killed, but not conquered. Moreover, they are ours, yours and mine, the rightful property not only of the thousands of Pacific fishermen but of all Americans. Can once-fabulous runs be restored? What of the future for our fleets and canneries, like those at Haines, above?

IT'S been years now since I've had anything much to do with salmon except to eat one occasionally, yet I find my active interest in these fish has not declined. Rather, it has increased. For surely, these are splendid creatures. Splendid in the exquisitely delicate beauty of their infant stages. Splendid in the strength and grace and symmetry and speed of their full development. Splendid also in the resolute singleness of purpose, the courage and dogged determination with which they undertake and carry out the last great venture of their lives, the spawning migration.

To know the salmon is to respect them, for here are creatures which can be killed, indeed, but not con-

quered. Moreover, they are ours, yours and mine, the rightful property of all American citizens, so long as they swim free. Catch one, and the capture makes it yours. Catch a big king salmon in Ketchikan's salmon derby, and you may win a prize as well.

It is precisely because the salmon are a national heritage that I have undertaken to write about them. I am well aware that a most confusing jumble of information and misinformation has been written about the salmon, and though I know that much of what I have to say is recorded in learned documents here and there, most people will never see those particular documents. Among us Alaskans there are several distinct points of view,

each of which is pertinent in some particulars and more or less lacking in others, depending upon whether one is a fisherman, a salmon packer, a believer in artificial propagation or a naturalist.

The naturalist's point of view is the most comprehensive when presenting salmon as salmon. The naturalist classifies living things according to family, genus and species. He's concerned with a family called *Salmo*. It's a sizeable group including salmon, trout, whitefishes, smelts—in fact, every sort of American fish which has an adipose fin—that little boneless fin on the back, near the tail—except the catfish.

Our Pacific salmon belong to the *Salmo* family, but they are a separate

genus, *Oncorhynchus* — the name means hook-nosed—and there are five distinct species of them. The differences between the species are marked and plain, yet it is surprising how much they have in common.

TAKE the extent of the grounds they occupy. It's tremendous. From California clear around to the Siberian Arctic, and down the Asiatic coast to China and Japan. Over all this immense extent of land, each salmon stream has a colony, or an assortment of colonies if it's a big stream, peculiar to that stream. In its gravels the salmon are hatched. From it they migrate in time to the sea, and to it they eventually return, to spawn and die. They are parent-stream fish. A few may stray from the parent stream, but very few. How they are able to return unerringly to the streams of their birth, I don't pretend to know, but there is no doubt whatever that they do it. Long years of patient study and a series of elaborate experiments were required to prove it, and the proof is immensely valuable.

Another thing, with all species and in all cases, is that it's the sea-feeding period which makes them grow big and fat. In a few localities there are colonies of land-locked sockeye salmon, called silver trout or little red fish, of the same species as the sea-going variety, but they are always smaller than their salt-water cousins.

Again they are alike in that once the migration has taken them into fresh water, they soon quit feeding. I know from examining thousands over the years that many cease to feed even before entering fresh water. It's easy to tell, because when a salmon quits feeding the stomach shrinks into a small, hard, thick-walled structure scarcely resembling the organ it was before. Nonetheless, some will strike readily at spoons and spinners in fresh water. Why? It's anyone's guess.

After feeding ceases, the salmon draw upon and gradually consume their own tissues. Even the scales are gradually absorbed until, at the last, only a small part of each scale remains.

Another thing they have in common is a whole series of changes, both in form and color, so profound and astonishing that one must see to believe.

All of them, too, are known by a variety of names according to the locality and the age of the salmon. The result is sometimes confusing.

Moreover, all of them, traveling as they do from the ocean up the many streams to the shallowest spawning waters, are intimately related to the life and well-being of numerous other creatures, not only at the spawning time but long after.

All the Pacific salmons spawn once and then die. I know this statement will be challenged, and I know why. I'll come back to that later.

All species have another thing in common. All of them are, in the prime of their perfection, superb table fish. It's worth remembering, though, that some species lose their prime much more quickly than others.

This matter of table quality has been one of the big factors in the development of the canned salmon industry, though not the only one. The original inhabitants of the North Pacific ate salmon, of course, since time out of mind, and the early white comers salted some. But canning dates from the early 1860's when three young New Englanders, the Hume brothers, and a tinsmith named Hapgood worked out a method of canning king salmon—known also as spring salmon, tye, chinook, quinaut, tsawyscha and, when very small, blackmouth, trout and salmon trout—on the Sacramento River. In 1866 or thereabouts they built a small cannery on the Columbia River at Eagle Cliff.

They bought their salmon for ten cents each. It took three to make a case of forty-eight one-pound cans, and they sold their pack for eight dollars a case. That's a tidy profit any way you figure, but the firm of Hume and Hapgood had no monopoly. In next to no time every other bush concealed a new competitor, actual or potential. The awful financial panic of the 1870's was just around the corner. Borrowed money was expensive—legal interest rate in those days was twelve per cent—and fisherman demanded more for their catch and got it. Cannery crews were migratory workers who showed a disconcerting tendency to migrate at just those times when the canneries were swamped with fish. And there were sundry other problems.

Considering the abundance of sea

Canneries account for most, but not all, of the Pacific's salmon take. Below, are salmon drying at Unalakleet—winter provisions for natives and their dogs.



Machetanz

Fishing industries of the past have faced a four-phase pattern—introduction, exploitation, decline, ruin. Does the salmon industry face the same?

food in America at that time, what followed seems amazing until you look behind the scenes. The facts, as nearly as I can get them, are these: By the mid 1860's there had accumulated in the Eastern states considerable reserve capital seeking employment. That's where canned salmon came in. The new product was excellent every way considered. It was wholesome, nutritious and appetizing, not only at home but abroad. Once canned, the product could be handled roughly, shipped anywhere, kept anywhere—a consider-

Machetanz, from Three Lions





Almost from the start—even in the early days when men of iron sailed ships of wood—there was a marked interest in conserving our salmon resources. But much data was needed, is still needed, for such efforts to be successful.

able item in the tropics—and with any sort of reasonable treatment it would stay edible indefinitely.

The money men of the East were quick to see that here was an item splendidly suited for foreign trade, not to mention the home market, and the supply of salmon seemed limitless. So, they financed the competitors of Hume and Hapgood. Canneries appeared as if by magic, and an official report in my possession states that by 1876 the lower Columbia River was "a perfect web of nets." Canneries began appearing on Puget Sound and in Southeastern Alaska, the first of many, and the new industry was definitely under way on the basis of a knock-down and drag out competition that proved to be a potent force in

determining the shape of things to come.

Out of all this rose a fantastic expansion of the industry, a flood of inventions and improvements, salmon wars, Chinese contract labor, fish pirating, utilization of species other than king salmon, swamped markets, the Alaska Packers Association with its far-flung canneries and its famous Star fleet, and almost from the start, a marked interest in artificial propagation of salmon by means of hatcheries, and a desperate wish to believe that this method was the answer to depletion for all time.

A pretty kettle of fish, you might say, and after it had been stewing for some decades, I got mixed up in it.

My experience with salmon began

In the early years of the present century, two large Federal hatcheries were built in Alaska. One was located at Letnik Lake in the Kodiak-Afognak Island group and the other—pictured below—was at Yes Bay in Southeastern Alaska.



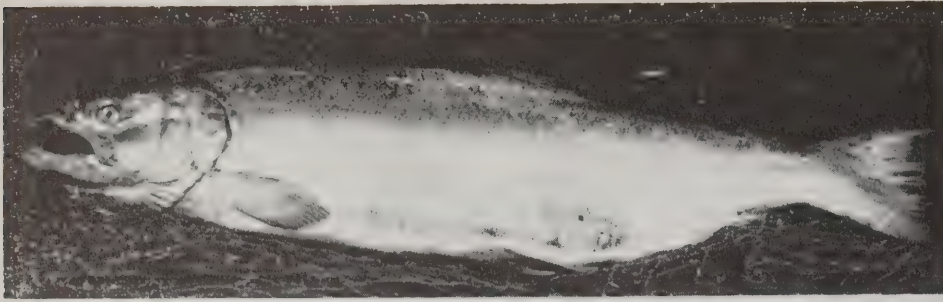
before I reached my teens because, at that time, the creeks around my home on Puget Sound still had straggling runs of three of the species. We had no red salmon, *Oncorhynchus nerka*, because this species, also called sock-eye, blueback and crasnaya riba, has established colonies only in streams which flow from lakes. We lacked king salmon, *O. tshawytscha*, because this is a fish of the larger rivers. But we had silver salmon, *O. kisutch*, which is less particular, and is known variously as coho, white salmon, medium red (when canned) and, oddly enough, as chinook in the Yukon River.

DOG salmon, *O. keta*, also frequented our creeks. This is the fish known in the Yukon as Yukon Silver, and in other places as chum and calico salmon. And our creeks still had straggling humpbacks, *O. gorbuscha*, widely known also as humpies or pinks because their flesh is pink rather than red.

The presence of these fish in our locality did much to enrich the background of my early days, particularly since my special friend at the time was a remarkable lad named Dave. The things Dave knew about woodcraft and the out-of-doors were a continual source of wonder and delight to me. He appeared to know more than most men in these matters, for Dave and his grandmother were excellent friends and she was his highly capable instructor. She had been born in the Copper River country about the time Alaska became American territory, and she had grown up there in the days when Alaska life included more of the old and much less of the new than it does now. Indian ancestry showed in her calm face, and Indian ancestry looked out of Dave's dark eyes. They were fine folk.

The outstanding day of my boyhood was that day in early summer when Dave, quiet as usual, led the way to the upper reaches of a small forest stream and knelt on a gravel bar exposed by the low stage of water. Here he began to dig, and presently, from the seepage water which collected in his shallow excavation, he scooped up a beautiful, plump, perfectly formed and very lively little fish somewhat more than an inch long. Then he found another, and still another, while I stared goggle-eyed, as completely astonished as if he had produced the little creatures out of thin air.

Dave quit digging and smiled. The lesson for that day was complete, except for the explanation which followed. These were infant silver salmon, hatched from eggs laid down in the gravel bar at a somewhat higher stage of water the fall before. Until this minute they had never seen the light of day. Their life had been spent in the gravel, but now they were fully developed. The yolk sac that had sus-



The various names by which each of the five salmon species is known make identification difficult for the novice. The silver salmon above, for instance, is also called white salmon, medium red (when canned), and chinook (in the Yukon).

tained them since their hatching was fully absorbed. The two sides of each little belly had met and fused, and now they were waiting until rains should flood the creek bed with water. At that time they would dig their way through the gravel and begin their life's adventure as free-swimming silver salmon.

So it was that my friend stood, that day, with his feet, figuratively speaking, on the trail which can lead, if we will, from familiarity to knowledge, to understanding, finally to wisdom—that wisdom which we must have, and fully use, if we are to maintain the salmon runs as we have them now, not to mention bringing to rich reality those splendid potentials inherent in the biological setup of these species. It's an uphill trail, but tremendously rich rewards lie in the direction of its leading.

Dave didn't follow the salmon trail. He was a natural mechanic, and he preferred that kind of work. As for me, it was quite awhile before I came around to salmon again, but when I did, conditions were, in important ways, the most unusual and interesting in the history of the North Pacific salmon fishery.

The immense importance of canned salmon in World War I and the troubled period immediately following brought home as nothing else could have the tremendous value of the Pacific salmon fisheries to America and, in lesser ways, to the world.

It has been said that until then, those who directed the salmon industry had consistently followed the stupidly reckless policy of catching and canning every fish that could be sold, leaving the matter of future supply entirely to chance. This statement contains a sizeable and gritty grain of truth, but in justice it should be added that there is somewhat more involved.

Almost from the beginning there were many who looked with uneasy foreboding upon the desperate intensity of the salmon fishing effort, and sought to insure future supplies by operating salmon hatcheries. They did this over a period of years and entirely at their own expense, until finally Congress decided to reward the conscientious and put the bee on the improvident by enacting a law which provided that each operator of a salm-

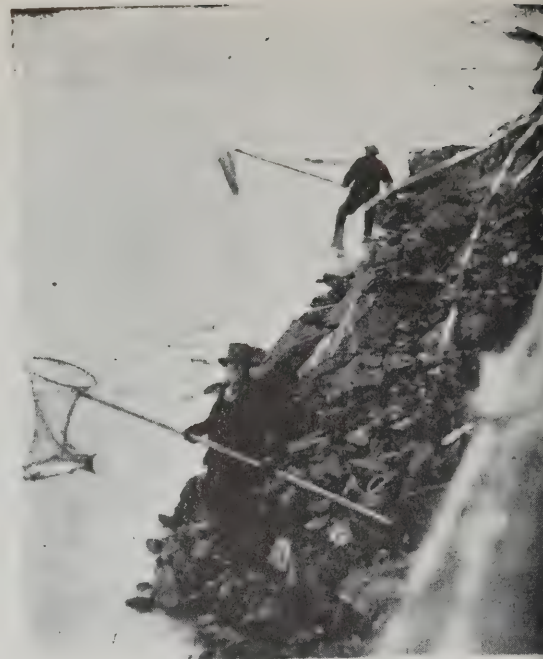
on hatchery should be entitled, subject to inspection of his operations by qualified agents, to claim a rebate in taxes on his salmon pack at a stipulated rate. For each thousand fish hatched and liberated—kings or reds, that is—the hatchery operator could claim tax exemption on a specified number of cases packed.

Furthermore, in the early years of the present century, two large Federal hatcheries were built in Alaska, one at Letnik Lake in the Kodiak-Afognak Island group, and another at Lake McDonald, which drains by the Yes River into Yes Bay—the name means sea mussel—in Southeastern Alaska.

Thus encouraged, artificial propagation went on apace, producing, as it turned out, little or nothing except a growing crop of biological errors. As we now know, altogether too much was expected of the method, altogether too soon, and altogether too ignorantly. It is scarcely possible to overemphasize that fact. The packers waited results, and when results failed to materialize, they turned in a sort of desperation to the recklessly destructive procedures previously referred to. After all, they had other problems aplenty.

As a result, by the time World War

In "the old days" the sight of thousands of dead salmon along the creek beds and near lagoons was common during the spawning season. It still is, to some extent, but not in the proportions of yesteryear when there was prodigious waste.



Salmon fishing isn't exclusively a salt water enterprise. Above, a nice king is netted from the bank of the Copper River east of Prince William Sound.

I ended, all but the willfully stupid were staring in dismay at a certain definite pattern which has been characteristic of other fisheries before now. This pattern has four distinct phases, and because it predicts in all accuracy the shape of things to come, it may be worth considering.

The first phase is a vast abundance of fish, limited market demand, low prices, small personnel engaged, small investment, small aggregate catch but, and this is significant, a heavy catch to each fathom of gear employed.

Phase two is one of expansion, leading directly to phase three in which most of the conditions of phase one



Portrait of a Patriarch



CHURCHILL ETTINGER

Battle for Leadership



R. H. Palenske



waiting for the salmon

Our nets are mended, in our dories;
Traps are strung along the shore;
Salmon from the chill salt ocean
Seek their birth-place streams once more.

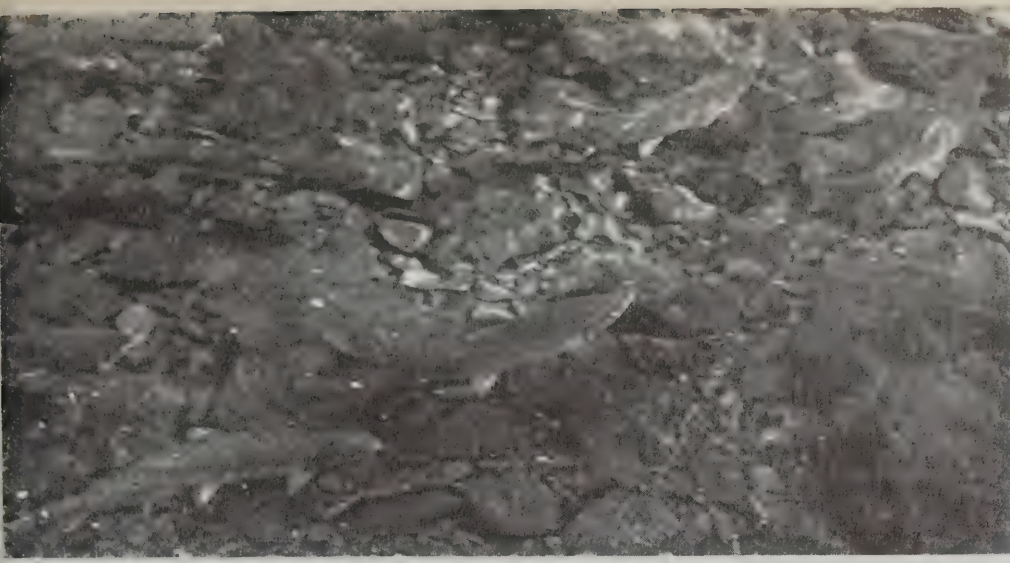
Every knife is honed to brightness,
Each machine is oiled and set;
Steam is building in the boiler—
Floors are freshly cleaned and wet—

Take that cash crop of Alaska!
Fill those miles of gleaming tin—
Friday food for hungry people!
It's time to start the harvest in!

J. C. F.



WAITING FOR THE SALMON



William Wakeland

Pink, or humpback, salmon are shown above running in the Little Water Creek on Afognak Island prior to their spawning. Eggs, deposited under the creek bed, will remain buried there until the hatched fry dig their way out.

are reversed. Many are now employed in the fishery, using immense amounts of gear. Demand and prices are very satisfactory, the aggregate catch is tremendous, but the catch to the fathom of gear is greatly reduced and, over the years, tends to go down and down.

At this stage in the salmon fishery the big years became poor, and the poor years became poorer, and unless wise and timely action is taken, the fishery topples into phase four—commercial extinction. This means that while there is still a remnant of the former abundance, the supply is so small and the cost of fishing and processing so high, relatively, that profit ceases. All of which spells one short, ugly word—ruin.

The sockeye salmon netted by this boy was spawned in this same creek five years previously. It left the fresh water of its birth for the adjacent lake, then the ocean, but unerringly returned after half a decade to spawn and die.

U. S. F. W. S. Photo by B. Scheffer



Bureau of Fisheries, predecessor to the present Fish and Wildlife Service, to act, and the result was that under the direction of Fisheries Commissioner Henry O'Malley there was launched an altogether unusual and comprehensive program of salmon investigations headed by men who were, by general agreement, top flight.

MEANWHILE, in 1923, I shipped aboard the cannery tender Kenmore, which in those days tended traps in vast Morzhovoi Bay out toward the tip of the Alaska Peninsula. There I promptly encountered the fishery pattern just referred to. My employer was a large and powerful concern with far-flung interests in Alaska, and yet late in the season the crews were still on the job, frantically raking and scraping to accumulate a last few thousand cases of salmon to add to the profit left after all the expenses of the season were deducted. I didn't like the setup, so I joined the crew of the Letnik Lake hatchery on Afognak Island.

The country there was a fairyland of natural beauty, but from a constructive standpoint the procedure at the big hatchery proved so utterly futile and depressing that I prepared to resign. At that point, entirely by fortunate chance, I was offered a part in the new salmon investigation, in the very humble capacity of general assistant to all and sundry. I still hope I didn't accept with too great a display of unbecoming haste.

So it came about that the spring of 1925 found me at the famous Karluk River on Kodiak Island, a salmon stream with a past productive record that is nothing less than prodigious. The stream is small, scarcely more than a creek, though the lakes at its source are impressive and beautiful beyond description. From 1888 to 1907, the yearly catch of red salmon from the Karluk, not including a considerable quantity taken for use by the Karluk villagers, fell below one million only once. The average yearly commercial catch over the period was more than two million three hundred thousand red salmon! Packs of two hundred thousand cases, forty-eight pounds to the case, were common throughout the period, with an occasional season's catch of a quarter of a million cases.

This despite the fact that as many as five different outfits competed for the catch, fishing freely in the river itself and in the lagoon and on the outside beaches, all without anything that might be called regulation.

But after 1907, things began to change. In 1914 the total pack from Karluk amounted to a wretched thirty-nine thousand cases. Why? Then it rose again, but never to the level of the palmy days. Not, that is, until 1926, when the total run to the river, as

proved by the records of the counting weir at the head of the lagoon plus the cannery records, reached a total of four and one-half million red salmon. Again, why?

It was the purpose of the salmon investigation to find answers to these and other pertinent questions, and if possible to develop and demonstrate some reliable method of predicting the size of the red salmon runs one year in advance, to the end that regulations and commercial preparations would enable the fishery to prepare for heavy catches during the big years, when fish could safely be taken in numbers, and prepare for smaller catches in the poor years, leaving an ample spawning reserve. Thus the poor years would be strengthened, and the total resources of the river built up, to the benefit of all concerned.

IT WAS a big order, but it was seriously and ably attempted, and as a result, over the years, a magnificent piece of scientific pioneering was done at the Karluk—pioneering the fruits of which await gathering in the future, because of the interplay of forces, mostly political, beyond and quite aside from the investigation.

The men in charge of the program were exceptionally well qualified. Charles H. Gilbert was a fisheries biologist of world repute and an authority on the red salmon, which he had studied for more than twenty years from the Columbia River to Southeastern Alaska. Willis H. Rich, second in command, was a top flight ichthyologist whose concise thinking placed him in the same professional category as his chief, whom he succeeded when Dr. Gilbert died a few years later.

They could and at times did enlist the assistance of top mathematicians, chemists and statisticians, and yet, despite all this, they had urgent need for such simple services as presently were assigned to me. I became their collector of scientific data. For the next five seasons I collected from each day's catch one hundred and twenty salmon selected at random, and from each I carefully recorded the weight, length and sex and took a sample of its scales. Thus I handled a yearly total of five to eight thousand salmon, according to the size of the yearly runs and the number of days on which the weather permitted fishing.

The data on length, weight and sex were fitted by the chiefs into patterns of scientific legerdemain beyond my comprehension, but the importance of the scale samples was something I understood at once. For just as the life history of a tree is recorded in a series of growth rings in its wood, so the life history of each salmon is recorded in a series of growth rings on its scales.

These rings are barely visible to



Salmon canning dates from the early 1860's when three young New Englanders, the Hume brothers and a tinsmith named Hapgood, worked out a method of canning kings. The Metlakatla, Alaska, cannery is shown above.

the unaided eye, but by using a low-power compound microscope with special objective they can readily be seen and interpreted—by those who possess the necessary skill. Anyone can see the rings through the microscope and can soon learn to interpret life histories correctly when all the rings are plain and uncomplicated. But the ability to interpret correctly all and sundry, as they come, and continue to do so for long hours at a time, takes a skill that few possess.

Dr. Gilbert thought of himself as a detective, and that is what he was. For the mysteries of the salmon, like the mysteries of a major crime, are not subject to solution by direct observation. The approach is necessarily in-

direct, made by skilled reasoning and scientific deduction. With such method and means applied to the problems, presently a whole series of new facts became available.

Here I can deal with them only briefly. There was a widespread belief at the time that red salmon in general were four years old at the time of maturity. But scale studies shown that, in the Karluk race, there were seventeen different types of life history. Some of the Karluk reds reached maturity at three years. Others did not mature until the age of eight. Some spent no considerable time in fresh water, but went to sea soon after emerging from the gravel. Others stayed in

Consider the extent of grounds occupied by the salmon. It's tremendous. In towns from California to the Siberian Arctic and down the Asiatic coast to China and Japan they are pursued. Shown below are some Sitka boats.

Lind



fresh water for the astonishing period of four years before migrating seaward. Still they were very small, scarcely more than seven inches long, and slender. It is, I repeat, the sea-feeding period that make salmon big, fat and heavy. The majority of the Karluk race was found, however, to consist of fish which, after emerging from the gravel, spent two years in fresh water and some two and a half years at sea, so by the time they had ascended to the spawning grounds and died they were some months under five years old.

Having begun the investigations in 1920 and having examined scales by the thousands in the years that followed, Dr. Gilbert attempted in the fall of 1926 to predict the Karluk run for 1927. No such prediction on anything except a frank guesswork basis had ever been attempted before. All who knew about it awaited the close of 1927's season with keen interest.

Finally the season came to an end. The salmon count from the canneries was added to the number counted upstream through the weir in the river—and the total was found to agree almost exactly with Dr. Gilbert's predictions. With a sigh the old biologist turned back to his microscope and his immense collection of data. Such near-perfect accuracy at the first attempt, in view of so many still unknown factors, was against all the laws of probability, and he was too good a salmon detective not to know it. He was working toward a second attempt when the sands of his life ran out. Dr. Rich took over, and the investigation continued.

At first the fishermen had brought me the daily sample of salmon from the nets, and I did my data collecting ashore, but I soon saw that this arrangement was a troublesome chore to the crew, so I took to rowing out to the storage lighters, anchored a mile offshore in tricky Shelikof Strait, and doing my collecting out there. As often happens, this sort of independence paid off. The Karluk crew, on the Alaska Packers side of the river, was nearly all big fellows, and proper sailors. Each spring they sailed the big square-rigged *Star of Shetland* up from San Francisco, and sailed her back each fall. At handling small boats they were past masters, which I wasn't, but after I had succeeded in landing my rickety skiff through the surf on the outer beach once when I'd been caught at the lighters by a summer wind storm, their attitude toward me changed in a subtle but perceptible way. Certain of them became my good friends, and the memory of those friendships I count among my treasures.

As to data collecting, the directions given me left nothing to chance. Weights and lengths were carefully taken and recorded, and the sex of each fish was always double checked by slitting the belly and verifying the presence of eggs or roe.

I HADN'T been doing this long before I ran across certain fish which Dr. Gilbert called blanks, and as the Irishman said about the pig, it was a good name for them. Blank they were. For some reason even the chiefs didn't know, their sex glands had never developed but had remained in the infantile condition—just two slim, delicate strings, one on either side of the kidney, that long, dark mess just below the backbone. Yet so far as I could see, these blanks were identical to the other fish in outward appearance.

It is these blanks, I believe, which cause some people to believe even now that some of the Pacific salmon do spawn, recuperate in salt water and return to spawn again, just as the Atlantic salmon do. The inference is reasonable, especially as only a trained observer could find and identify correctly the undeveloped sex glands.

There are, however, other proofs that Pacific salmon spawn only once. The females of these species are provided with only one set of egg cells, so for them a second spawning is a physical impossibility. As for the male fish, Dr. Gilbert failed to find, among the thousands upon thousands of scale samples he examined over more than a quarter of a century, one single scale that showed the peculiar scars readily seen on the scales of the Atlantic salmon and the steelhead trout, which certainly do spawn repeatedly. So I consider the case closed. These salmon spawn just once, and die soon afterward.

In general, Pacific salmon cease to feed when the spawning migration is close at hand, and this was true at Karluk, of the great majority, but not of all. I soon found that some ten per cent were still feeding, and that gave me an exceptionally good chance to learn what they were eating—especially the reds, humpbacks and dog salmon, which are but rarely taken by trolling. Being so often at the storage lighters anyway, and having at times considerable leisure, I began to examine a number of stomachs each time I took data, and to record my findings simply for the interest of it.

I found out nothing others didn't know about the kings and silvers. They are the hunters of other fishes, herring, sand lance, capelin and the like, and as we know, both species strike readily at a wide variety of trolling lures.

Reds and humpies, however, I found to use a different sort of feed, and a very special method for getting it. Their mouths are equipped with capable teeth, as are those of the other salmon, but they seem to make little use of them. Their feeding system is the same as that used by the baleen whales. Using their gill rakers, they strain their food from the water. These gill rakers are those whitish, comb-like structures of tough, gristle-like material near the throat opening, just forward of the red gills. In the other

species these are stout, stumpy affairs used for feeding, if at all, only when the fish are very young. But in the reds and humpies the gill rakers are long, slender and numerous, almost like the bristle of a brush, excellently suited for use as strainers.

In general, nature sets the salmon an abundant table during the sea-feeding period, but in the case of the reds and humpies, it's always feast day and the tables are always loaded. The small planktonic organisms which comprise their feed are so unimaginably abundant that the fish have only to open their mouths to have them filled with food. Actually, however, so far as I was able to observe, they are too impatient to use so indolent a method. Perhaps turning slightly on its side, the salmon opens its mouth wide and swims rapidly forward a fathom or so, then closes its mouth and swallows. Digestion appears to be highly efficient and extremely rapid. I never found any great quantity of this small feed in any stomach, and such as I did find was always fresh and but little digested.

Each year I found that the same kinds of planktonic organisms comprise the food of both the humpies and the reds. One was a small, delicate, pinkish-white shrimp, possibly their favorite food. Next in order was a tiny, free-swimming sea snail, or pteropod, scarcely as large as a match head. This small creature is encased in a transparent shell of exquisite thinness, and it drifts with the current flapping two wingless appendages as it goes, and lashing the water with four delicate tentacles, apparently feeding upon some still smaller organism even more abundant than itself.

THE third item of planktonic feed, and the most surprising, is a tiny, free-swimming crab. This was a delicate creature, and I judged very young. The largest were a dainty cream-white, perfectly formed but scarcely an eighth of an inch in diameter. Others were plainly still younger, almost transparent except for the black eyes, and in that stage of development they resembled neither crab nor any other creature known to me. In fact, at one time naturalists considered them, in this stage, a distinct species.

Herein lies a mystery. Both the humpies and the reds subsist on this diet, yet the flesh of the one is pink and of the other, red.

Sometimes, though rarely, I found stomachs containing other things—items which may account for the fact that once in awhile these species and dog salmon as well will strike at a trolling lure. One of these was the needle fish, a small, slim creature rarely as long as three inches. Sometimes I found small fish I took to be very young cod, and once, to my amazement, I found a humpie that had recently swallowed an eleven-inch Kodiak herring. These herring are

probably the largest in the world, and how the small stomach of a humpie could accommodate so large a belly-full, I don't know. The delicate stomach walls were stretched to unbelievable thinness, and even so, the tail of the big herring was lodged in the humpback's throat.

AT TIMES, too, I found assorted knickknacks—small feathers, spruce needles, bits of pumice, scraps of seaweed, apparently strained from the water along with the plankton.

The stomach of the dog salmon is much larger and coarser than the red's or the humpie's and its feeding habits I found to be peculiar to that species. I have mentioned that once in awhile the dog will strike at a trolling lure. Just once in five years I

found a dog salmon's stomach well packed with the little smelt-like fish called sand lance. The dog's favorite feed, by far, consisted of a curious pteropod called sea angel. This odd creature is about the size and shape of a .30-'06 bullet. It swims with its transparent body upright in the water, tail bent to one side, cherry-red liver showing plainly through the transparent body wall, a pair of small wings near the head flapping continuously in leisurely rhythm. I have taken as many as a measured pint of freshly swallowed sea angels from a single stomach.

For a long time I was puzzled about a curious faintly purple curd-like substance I often found in dog salmon stomachs. It was like nothing I could

see in the water. After some time, acting upon a hunch, I took some jelly fish and put them to soak in a jar of vinegar, the only acid substance I had which at all approximated the stomach acid of a salmon. The vinegar acted slowly, but in seventy-two hours the jelly fish broke down, leaving a purplish mass similar to the material that was puzzling me. Then, in a day or two, I found a stomach that contained a freshly swallowed jelly fish.

This surprised me, as I had always regarded jelly fish as being in the same class, nutritionally speaking, as wind pudding and rain-water soup. But I have learned since that they are more nutritious than they look. The proportion of solids in the composition of most species is about five per cent.



Frank Beckwith, O.P.L.

September Harvest

IT'S getting toward that time of year when the big sea-run cutthroat trout will come surging into the coastal streams of Alaska's "Panhandle" and the "Westward."

By Labor Day, at the mouths of countless streams from Ketchikan to Valdez, swarms of these natives will be boiling among the candlefish and summer salmon fry migrants.

Silver-fresh from the salt water where they have been roaming since they left the spring spawning beds in the rivers, fat and hard from lush feeding pastures in the ocean, they will be giving a lot of Alaskan anglers some of the best trout fishing any man could wish for.

Most of them will run around fourteen or fifteen inches in length. Some will go to better than twenty inches—anywhere from a pound to five pounds of real fury on the end of a line.

One of the more spectacular places to join battle with the sea-run cutthroat trout is in Hamilton Bay, near Kake in Southeastern Alaska.

Here is a spot where the fall arrival of trout can be timed to the opening days of duck and goose shooting in those years when this area has a September first opening.

A Labor Day boat trip to Hamilton Bay at this time of year is something to remember. Literally you go afield with a fly rod in one hand and a shotgun in the other.

Feathers and Fins

Ducks and geese in the morning to usher in September properly—then trout during the day from the "Big Hole"—trout fishing occasionally interrupted by a mad spray-flinging rush from the stream to grab a shotgun for a quick-flung try at the odd passing goose or duck.

When the sun begins its descent into the low mountains across The Pass, anglers move then to "The Goose Tree" to hunker down in the tall marsh grass and wait for the sundown flight of geese.

Just as the sun is about to make its official departure for the day, big flocks of "homesteader" Canadas will come suddenly from all directions, heading for the pits and blue mud where they feed on a little pink clam no larger than a baby's fingernail.

Most will come noisily, clanging their way up the flats from the bay, or down the river through the portage from Big John Bay, but some will come quietly in from over the trees and the low hills, slipping swiftly in on you with a frightening rush.

All will come in with a purpose, tumbling, side-slipping, wings set and feet extended, dropping down from great heights with a speed that surprises you every time you see it.

Pandemonium

So many geese appearing so suddenly from so many different quarters is a never-to-be-forgotten experience. For perhaps ten minutes guns grow hot and the air is filled with a crashing of twelve guns and twenties, falling bodies

thudding heavily to mud or water, or dry hard ground. Everywhere there is a shouting from men and from geese and suddenly again there is silence.

It will be a proper and fitting way to again end a day with the trout of the Big Hole.

The geese and the ducks—the bulging crab pot full of fat Dungeness crabs—the buckets of butter clams—the quite possibly warm September sun—all wonderful things to see and smell and partake of—but they are all just “extras” for the real thrill of the trip, those slashing strikes of hungry sea-run cutthroat trout.

The “Big Hole” is perhaps two miles up Hamilton River from where you anchor just outside the low tide mudline. With the tide out it’s a tough drag-and-run upstream operation with a kicker boat—tougher after dark coming down when tired legs have to wade out a channel ahead of a laden boat.

It’s closer to ideal when you hit the tide full in the early morning and full again after sundown. With the mud flats covered and the tall green and brown salt grasses half immersed, a careful outboard operator can take his rig almost to the “Big Hole” itself.

This is the first real fresh water pool in the river, a hundred yards long, some thirty yards wide, deeper against the cutbank and shallowing on the opposite shore to fine gravel and a low grass bank. Back of the bank is a vast green meadow dotted with Christmas tree spruces growing in sedate scattered clusters away from the main forest itself.

Like strong coffee in a clear cup, the dark muskeg-fed Hamilton River slows here to a speed that varies with the tide. Almost as though hesitant to leave the sanctuary of the heavy spruces and hemlocks, it tumbles over one last short stretch of white riffle and then quietly moves out into the sea-filled meadows.

The sea-run cutthroat, coming in with the tide and gorging as he comes on spawning candlefish and salmon fry wandering in the maze of grasses flooded by the aimless current, comes to sort of an “end of the line” here in the Big Hole.

Husky Fish

He has grown big and strong in the summer at sea and he is reluctant to leave his bigger land of plenty for the smaller confines of the river. Some will “winter in” up the stream in deep holes or tributary lakes, but most will return again to the sea for the rest of the winter and come again in the spring to join with other spawners, then once more move casually downriver with the youngsters and back anew to the sea.

There is nothing casual about this

trout, now, however. Like the young forked-horn bucks still in the high hills, he too seems to be feeling the wildness that comes with fall.

If you’ve been lucky enough to buy an Alaska Mary Ann trout fly, lay that gem of a polar bear hair streamer across the current. Watch its Jungle Cock eye almost wink with assurance at you as it ducks with the boil around that old windfall on the cutbank side.

As the white of the polar bear hair flashes its tantalizing tail-flirt in response to your gentle wrist movements, don’t think it’s “kid stuff” if you feel a trembling of anticipation in your limbs.

If you don’t feel that tremble it’s the same situation where the doctor gets no response when he whacks you back of the knee cap—there’s something wrong with you.

So watch Mary Ann and enjoy that trembling. Watch then for a speedster of a cutthroat to lance out away from his fellows and snap his hard jaws down on the streamer in a lancing silver arc.

He’ll be stung by the number eight hook buried in what he took to be an aimless fry wanderer and he’ll hammer his frustration the length of your rod right up into your arm socket.

For furious minutes he will tear from end to end of the Big Hole, tumbling madly and trying to spit out the barb. He’s wild, and he’s mad and in desperation he’ll fling himself in a frothing series of tail-thrashing leaps across the pool.

In a series of great sweeping arcs he’ll try to reach the roots on the deep side of the pool, but if you lay on gently with the rod pressure he will eventually come to terms.

You’ll find him hard as rock to your hand when you grab him, hard to hold and not through fighting. If he has just come in on the last tide, he’ll gleam like a washed Reno dollar and his back will be a pale sea green, the black spots barely discernible.

His red gill marks on the under side of his chin flanking his tongue will be a pale vein-blood red against silvery snow white.

But if he has been hitting the brackish tidal waters for the past few weeks you will find him a rich dark olive brown on the back, shading to a richer light olive on the sides overlaid with a brass-gold sheen.

This trout’s black spots will be clearly and heavily marked from nose to tail and his gill markings will be great carmine slashes of brilliance as he gasps spent in your hand.

Once we took a visiting German youngster on his first cutthroat trout fishing trip. His English was too poor for normal conversation, but he found

adequate expression when his wondering eyes beheld his first sea-run laid out on the grass bank beside the Big Hole.

“Ach!” he exclaimed, “Zo—brit-ty!”

Beauty All Around

Pretty they are, and the “frame” of the picture—the land and its things about you are part of it—the musk odor of the marsh mingled with the tang of seaweed and spruce—the cool caress of the soft breeze drawing down the river and the bunch-of-dogs-yapping sound of geese circling down the bay.

The nagging squawking of a hen mallard somewhere in the grass hidden sloughs—the cheeping sound of green-winged teal gathering for the first-to-leave flights of the southward migration—the whunk of an undercut clod dropping into the river—the quick splash of another feeding cutthroat. Overhead the swooshing rush of a band of mergansers coming out of the dark slot where the stream above you bends out of sight in the timber.

You’ll drag yourself over the rail of the boat after dark when the day’s fishing and shooting is over, exhausted, hungry from not taking time out for more than quick and dry, some-sort-of-meat sandwiches. And you’ll join your fellows in steaming coffee perhaps laced with chill-chasing rum.

There will be the smell of drying socks, cooking crab, raw liquor and sweat soaked woolen underwear. There will be a quick pan of hot water to cleanse your hands of fish and birds and marsh slime.

Someone will begin peeling and chopping great Spanish onions, dropping the white sections into the big blue enameled mulligan pot where a dozen fresh-killed teal are simmering away beneath a golden-flecked film of duck fat sprinkled with pepper, ground parsley and other herbs.

Full and content you’ll stretch out tightly to the foot of your sleeping bag, and in that moment before sudden sleep you’ll feel the tug of the anchor chain at the head of your bunk, hear the new-running tide gurgling on the other side of a few inches of cool hull.

You’ll see again the silver and gold flashing of sea-runs just in from the big water. They’ll be feeding tirelessly in the schools of fry and candlefish where spruce and salt marsh meet in beauty. Overhead against the crimson flush of sunset, wedges and follow-the-leader lines of geese will be breaking up into tumbling masses of noisy honkers pitching to the pits.

You will know it has been a day and a thing to remember. ▲



Photo by J. Malcom Greany

**In the month of May, cutthroat trout begin returning
from the sea to favored Alaskan coastal streams.
For the angler, sudden summer has arrived.**



I had always considered two or three good clean jumps a credit to any salmonoid, but those rainbows in the short outlet of Little Togiak Lake flipped all over the place, hitting water only long enough between jumps to get a tail-hold and repeat the act. That was the most exciting afternoon I ever spent, and we stopped fishing only because we were exhausted.

Photos by C. H. Baltzo

EIGHTEEN CASTS--EIGHTEEN TROUT BY C. H. BALTZO



THERE'S PLENTY of water in the Wood River country, back of Bristol Bay, but practically all of it lies still. What little of that water does move has but a brief instant of action as it tumbles precipitously from some rugged slope. The rest spends its time quietly filling the canyons between the mountains, to form huge lakes, or saturating the tundra in the flat country beyond.

The rivers that connect the large lakes into chains are characteristically short and direct; but frequently they whoop it up for the short distances they do travel.

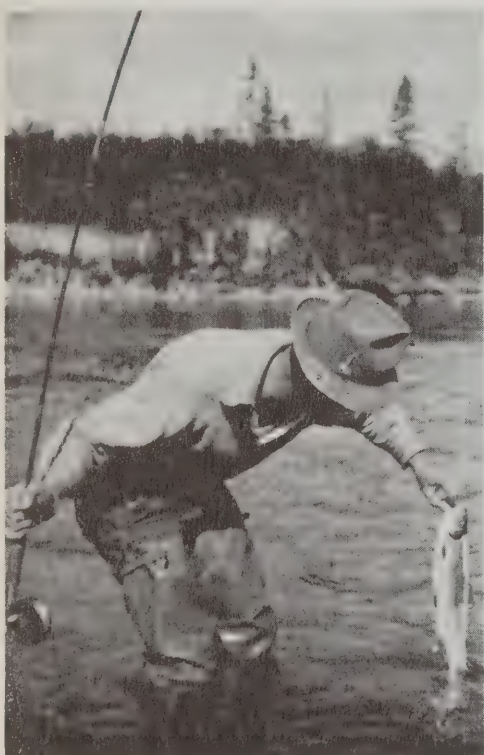
The outlet of Little Togiak Lake first attracted our attention because it was

We pitched our tent beside the inlet to Little Togiak, on one of the few level spots on its shore. The lake stretched for fifteen miles between towering pinacles of jagged, barren rock, too steep to hold soil or vegetation of any sort.

such a humorous extreme of those short-and-to-the-point rivers. Our map, didn't indicate that there was even a river at this place. The cartographer had saved himself the bother of mapping it, and just represented Little Togiak as an arm of Nerka, the big lake, rather than as a separate lake.

When, in the course of our season's work with the Fish and Wildlife Service, it came time for Gus Hilsinger and me to survey this particular section of the vast Nushagak watershed, we anticipated from a study of our map that we would be able to make a non-stop cruise with our skiff and outboard motor from the main lake directly up to the head, Little Togiak "Arm."

It was a repetition of an old story



Those rainbows used every trick known to their sophisticated cousins nearer civilization, and never have I seen such endurance! Each time Gus or I landed a fish, we'd congratulate ourselves that now we had really lived to the fullest!

when we discovered that our map had been a little careless with the truth, and that Little Togiak was actually a lake that lay somewhere behind a very substantial ridge of rock through which our supposed "channel" dropped at a very un-lake-like pace. Scheduled portages are bad enough, but it is particularly disappointing to find rapids where one expects a lake-bed.

Pulling up our boots, we piled out of the skiff at the edge of the beach, and stowed our precious cargo more carefully under the tarpaulin. A journey



Much as we would have liked a meal of fresh fish, to use anything so fine and wild as those beautiful rainbows for common food would have been unthinkable! "The little ones taste better, anyway," we rationalized, as we released the big trout.

upstream through white water is a different proposition from a lake voyage. It would be weeks before we could replenish our provisions, and meanwhile we didn't want to go on an exclusive fish diet.

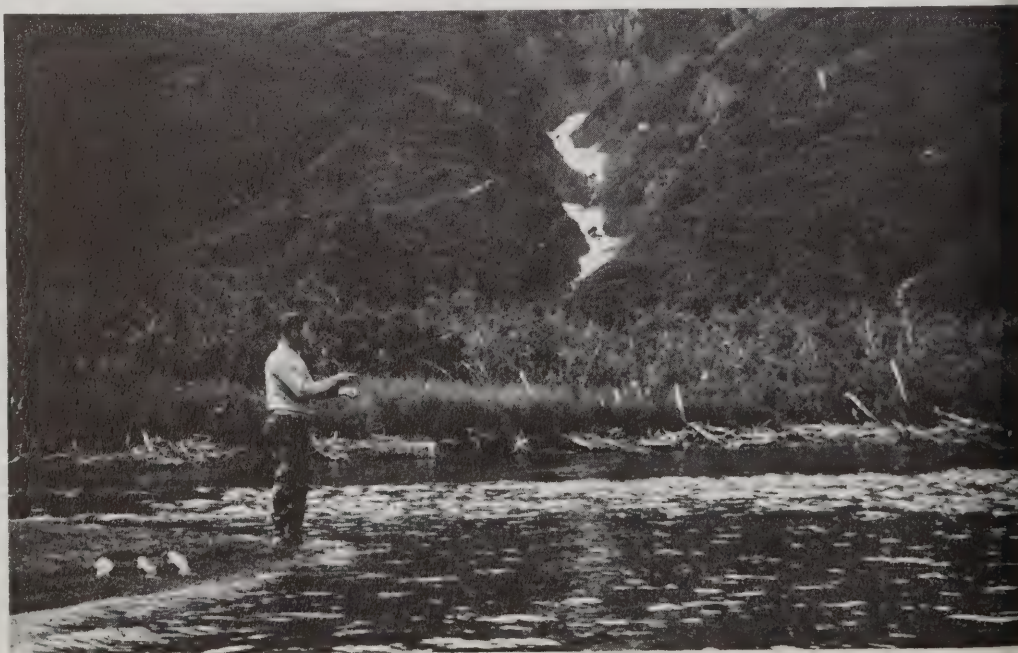
The rapids we could see didn't look so bad, but there were several jagged boulders over which the water broke white; and it wasn't possible to guess what might lie above the next bend. "Better safe than sorry" is an Alaska adage born of bitter experience.

With everything set for the venture, Gus grabbed the towline and started

walking up along the edge of the river. I pushed at the stern of the skiff. A hundred yards of gentle riffles were simple to navigate, but then we came to the foot of the rapids. The swirling current caught the skiff, and threatened to throw it against the rocks.

The bottom dropped away to a depth of ten feet in spots, so that I often found myself standing on top of one big boulder while trying to keep our craft from ripping its bottom open on another. It was quite a game, as I strove to keep the boat in deep water, and myself out of it,

We tried every likely-looking spot on the lake's shore, but all we caught were Dolly Vardens. Most Alaskans sneer at Dollies, but we enjoyed their company. They weighed five or six pounds apiece, and in the cold water they put up a fight.



at the same time. Meanwhile Gus, somewhere ahead, supplied the motive power.

The footwork was much too tricky for me to be looking around at the scenery, so I was quite surprised when, after ten minutes or so, the boat floated calmly on still water. I looked up to find that we were on Little Togiak Lake.

The next few days were an outdoorsman's dream of paradise! The lake stretched straight for fifteen miles, one end over the horizon from the other, and every inch of the rugged shoreline was beautiful. Little Togiak is not a wide lake—less than a mile in most places—but parallel ranges of mountains rise abruptly on each side. Impassable jungles of scrub alder matted the bases of the peaks, but they gave way to no vegetation at the higher elevations.

The pinnacles of jagged, barren rock, their crowns sharply pointed, were too steep to hold soil and vegetation. Geologically speaking, the country is brand new. Those un-eroded spires were truly in character in the untamed land.

Gus and I were surveying the spawning grounds of the red salmon in the Nushagak River system. It is the common thing for salmon to spawn in streams of running water, but the particular breed in that section is much more given to spawning in the lakes themselves. Huge schools will congregate on gravel areas along the shore of the lake, where there is seepage from the mountainsides. In due time the fish pair off, dig nests in the gravel, deposit their eggs, then die.

ALTHOUGH the mountains plunge so abruptly into the lake in most places that even a salmon would have a hard time hanging onto the beachline, there are occasional areas at the heads of bays where the gravel floor spreads out evenly over a considerable expanse. In such places we would invariably locate large schools of brilliantly colored salmon milling about.

Here and there in the clear water we could see rhythmic flashes as the female reds would turn on their sides and dig nests in the gravel with their tails. Occasional bursts of motion occurred whenever a couple of males chased each other about in their quarrel over a particularly desirable mate. However, the scene was characteristically one of peace. The majority of the salmon swam quietly about, or even lay still in the calm water. It was early in the season, and they were mostly just waiting.

Our technique was to pilot the skiff at extremely low speed along the shoreline at such a distance that we could see the bottom all the way from the beach to the drop-off. Sometimes this meant that we couldn't see bottom at all over the offshore side of the boat. It was a queer and oft-repeated sensation whenever we would float over the sheer brink of a submarine cliff. The water

was so intensely clear that we would get the sudden impression that we were about to fall over the edge. No matter how often it happened, we would jerk our feet involuntarily off the floorboards. So clear was the water that we seemed actually to be floating on air.

NOT EVEN a California press agent could have overdone a description of the August weather we found between the ranges protecting Little Togiak. At that latitude, it was daylight all but four hours each day, and when the sun was high enough so that the towering rocks didn't interfere, it shone with brilliance.

Just as the boys in the South Pacific have discovered that tropic nights can be bitterly cold, we soon learned that northern days can be distressingly hot. It had not occurred to us to stow Palm Beach suits and aerated shirts into our duffel bags, and our heavy woollens

Both Gus and I were enthusiastic anglers; our fly rod was never dismantled. We always carried it on top of the load in the skiff, where it would be ready, instantly, to defend us from the savage rushes of any marauding trout we might encounter.

Someday some lucky angler will have the thrill of exploring the tremendous and un-fished depths of Little Togiak, to see just what large game fish may have developed there since the beginning of time. It will be a rare sensation! We could see fish flashing fifty or sixty feet below the surface.

However, a fly rod is not the proper tool for plumbing such depths; we contented ourselves with casting at the mouth of the main in-flowing stream, where it ran into the head of the lake. Taking our chances on a possible sudden storm, we had pitched our tent on a large gravel bar a few feet up the inlet stream; so it was a simple matter to walk a few steps from our fire-side and draw a Colorado spinner through the current where it ran out over the lake's surface.

All we caught were Dolly Varden trout. Many Alaskans sneer at Dollies, partly because they haven't the gamey qualities of the revered rainbow, and partly because they are supposed to be deadly predators on young salmon.

But we enjoyed their company, nevertheless. They ran to five or six pounds in weight, and in the ice-cold water they put up a satisfactory fight. We kept hoping that a rainbow would turn up from somewhere to liven our angling, but after landing a couple of dozen Dollies on several different attempts, we gave up expecting anything better.

We surely hated to leave our idyllic existence on this northern Shangri-La, but the work came to an end, and there was more territory to be surveyed back on the bigger lakes. Stowing our gear back in the skiff and covering it, as usual, with the tent as a tarpaulin, we crowned our cargo with the fly rod

and made a full-power run back down Little Togiak to the brief outlet.

Remembering what a short trip it was to Lake Nerka below, and that the current would be doing the work that time, we both stayed in the boat. Armed each with an oar, we stood in opposite ends and fended our craft from the boulders that we rushed past. It was not dangerous, but I didn't feel as if I had time for sight-seeing, either.

WHEN we were well underway and things were at the most interesting point, Gus yelled, "Holy Smoke! Look at those trout!"

I had no time to see what he meant, but as soon as we reached quieter water, Gus returned to the subject.

"Let's go back up there and try to catch some of those trout! They're down in deep water between the rocks—big ones! All kinds of them!"

"Dollies?" I asked. "I didn't see them myself."

"I'm not sure. They might be Dollies—I couldn't see them too well down against the bottom. But they looked something like rainbows."

We beached the skiff, picked up the fly rod, and dug a couple of extra leaders and spinners out of the tackle box before we trekked back up alongside the short but turbulent stream.

The rocks were very slippery and the water between them was often deep, so I had to be careful in picking my way to a boulder where I could cast out into the main current. The spinner lit on the far side of the channel, about thirty feet from me, and started sinking and drifting downstream as I took the slack out of the line.

As the line grew tight, I saw the spinner start to flash in the clear current. Crash! The tiny sparkle of the lure exploded in a dynamic display! Even before I felt the savage smash on the tip of the rod, I knew I had a real fish. The single-action fly reel lost its clickity-clack in one drawn-out whirr-r-r; and I, the Dolly fisherman, lost spinner and leader to a high-g geared adversary who reached the end of the line in nothing flat!

It was all over before I knew what had happened. The solid smash that terminated the brief engagement nearly yanked me from the rock on which I stood. Everything had happened so suddenly and decisively that I'd been blitzed—no less!

I was jittery with excitement as I crawled back to the river bank to rig up anew. Gus never gets excited at anything—just impressed! This time he was fully impressed.

"Dollies, huh?" he snorted. "If that was a Dolly, I'll never enjoy catching another rainbow as long as I live. Here! Let a man who doesn't belittle the enemy have a whirl at it."

BACK IN the States our big chance would have been gone. The whopper in the pool would have been hooked

and lost, never to be fooled again. But we were in the back country of Western Alaska, on a little river that had never been fished before.

Gus had observed, in our brief transit of the stream, that there were a good many trout; and he wasn't going to be caught flat-footed. His cast was shorter, so that he wouldn't have the entire overflow of Little Togiak joining in the fight. And he had the line above the reel firmly between his fingers. But still the trout he hooked jerked the rod tip savagely underwater, and Gus had to pay out line carefully to keep things from parting in the middle.

A powerhouse run downstream seemed as uncontrollable as an angry bull; but somehow Gus still had a line on the fish when it ended. The first mad dash being unsuccessful, the trout entered enthusiastically into the aerial phase of the tourney. That performance was conducted on our side of the fast water, in a pool some ten feet deep.

Not in the pool—over the pool! All over that pool the trout tore in a series of jumps that were breathtaking in their agility and speed. Eighteen inches of brightly speckled silver flashed in the sunshine all of a dozen times, hitting water just long enough in between to get a good tail-hold and repeat the act.

I'd always considered two or three good, clean jumps a credit to any salmonoid; but this exuberant individual just flipped all over the place, like a tumbler on the stage. The whole show was carried on so effortlessly, with such innate grace, that you'd have thought the fish had spent its lifetime in constant practice.

Any semblance of control over the fish was out of the question. As I had, Gus just stood and watched the performance; and for the moment he was not particularly concerned about landing the trout.

The real fight was just beginning. When the hi-jinx act had run its course, power strategy was called in. The fish was heavy, and well knew the value of fast current against a broad side. Time after time the fish would rush headlong out into the rapids, and time after time Gus would maneuver the aquatic acrobat back into the quieter water near the edge.

But on each occasion the big rainbow would dig in firmly and scoot like a flash out into the fast water, to do it all over again. Your wrist aches awfully after ten minutes of that sort of thing!

The battle couldn't go on forever. That platinum speedball had used every trick known to his sophisticated cousins nearer civilization, and had thrown every ounce of his more than three pounds into the battle; but he was up against a man who had landed more big trout than the short rapids of Little Togiak River could hold.

What's more, Gus had a special incentive to land this particular fish. I'd carelessly lost mine, and if he landed

his, he'd have good chiding ammunition during the long days ahead.

We thought the scrap was in the bag when the fish ceased his lightning darts out to sea, and commenced to wiggle as he swam rapidly about between the big boulders in the quieter water directly below us. His beautiful markings and trim, streamlined form were clearly visible beneath the calm surface. I was content just to stand and admire such perfection of nature.

GUS HAD other ideas. "That durned rainbow must think this is a picnic. Isn't he ever going to quit?" he complained. "If I don't land him pretty soon, my wrist'll give out!"

"Can you work him over to me? Maybe I can herd him into water shallow enough that I can grab him," I offered. We had held equipment to a minimum, and a landing net was one of the luxuries we had felt unnecessary when outfitting. But a net would have solved a tough problem.

"Herd him, nothing!" poor Gus muttered. "He's circled every boulder in this pool ten times in the past two minutes, and I'm afraid he's about decided which one he'll dive under and hang me up on. I'm not running this show yet, not by a darned sight!"

Of all the fish I've caught, rainbow trout and other kinds, I've never before nor since seen one with such endurance! The original lightning dash downstream, followed by the dazzling series of jumps, had required an almost unbelievable expenditure of energy; but that was only the spectacular beginning of a long, hard contest.

Through all the heavy rushes out to midstream and down, the trout never once showed signs of weakening; and now that he stayed in quieter water, it seemed more a change of strategy than yielding. True, we could see him constantly, but I'd surely have hated to try keeping up with him on foot.

"Must be the clean life and the mountain air," I observed. "We'd better mend our ways if we're going to tackle brutes like these!"

It finally developed that the shiny demon was flesh and blood, after all. The constant strain of the arched rod was too much to withstand forever, and some time after Gus had changed over to his left hand, the trout gave in. It rolled over on its side and came to the surface, where it was easy for me to clasp it across the gills and lift it up.

After unhooking the small spinner, I held the beauty right-side up in the water and wiggled it gently for awhile before pushing it out toward the depths. Much as we would have relished fresh fish, to use anything so fine and wild for common food would have been unthinkable.

"The little ones taste better, anyway," Gus rationalized. It cheered us both to see the big fish steady itself and,

after cruising slowly through the boulders for a moment or two, dart suddenly out into the fast water from whence it had come.

"Your turn now," Gus grinned as he handed me the rod. "If you watched closely, you should have some idea how it's done. I could see schools of 'em as we came over, and maybe if you try hard, you can catch a small one we can fry."

So the ribbing had started! My greatest hope was that the commotion of fighting the first trout hadn't scared the rest into hiding. My only chance of even partial redemption lay in landing another fighter equal to, or surpassing Gus's.

MY FEARS that the finny community below the surface had evacuated were groundless. Being wiser and thus more cautious, I kept my cast short and was on my toes when the first rotary flash of the spinner was erased in the boil of water and foam.

The reel screamed as I lost control momentarily, in the ferocity of the attack. Even though I was prepared for it, that terrific smash was beyond restraint. The line stretched taut, and the rod pointed straight to the swirling current before I could collect myself enough to slow the rush and apply a little side pressure.

My hearted pounded and my brain raced as I threw myself into the thrill of the occasion, and enjoyed a wonderful repetition of the battle that Gus had just experienced. It would be monotonous to describe the same sequence over again, but it was far from monotonous to live it! And after we'd each caught another five or six rainbows, ranging from three to nearly five pounds, it was still anything but monotonous.

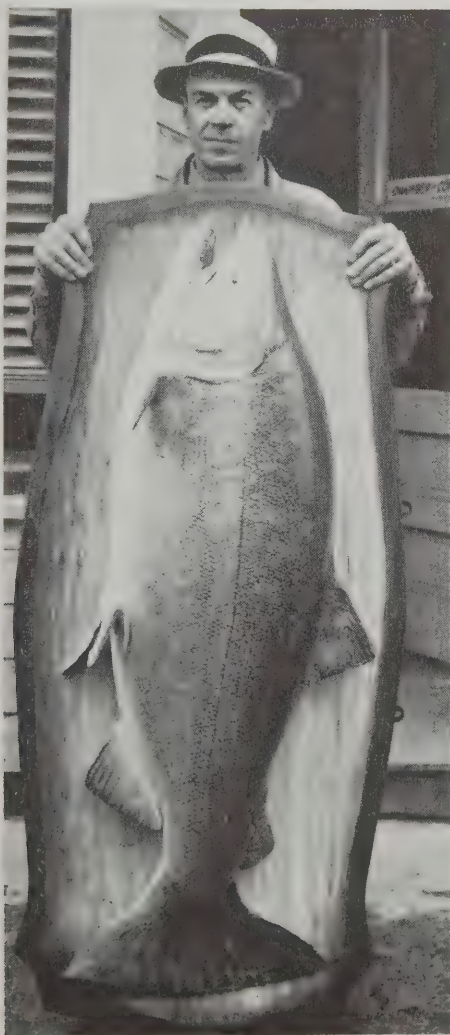
Each fight was similar to the ones before, and all were characterized by the speed and ferocity of our finny contestants. With each fish we landed, we'd congratulate ourselves that now we had really lived—there was nothing new in bouts piscatorial. But when we were fast to the next trout, we'd achieve the same heady excitement again! It was one of the happiest afternoons of my life.

It has been said that "good things come in small packages." In the case of the abbreviated outlet of Little Togiak, we most definitely concur! You can pick a fight with a raging rainbow trout at every cast, merely for the casting. How long it could go on, I do not know; but the man doesn't live whose wrists are strong enough to fish that rapids out!

Gus and I made exactly eighteen casts, and we hooked eighteen fish. We landed and released something less than a dozen, but we landed all of which we were physically capable. We left Little Togiak, not because of the attractions of the work awaiting us, but because our wrists simply hadn't the strength to stand up to another rainbow!

NONE SO BIG

by Dolly Connelly



Mother got the Colpoys king for canning, but the mount became Petersburg's own. The photo above shows the monster, young Donald who helped smuggle it home, and Ernie Haugen (right), now mayor of Petersburg. At left, George Ringstad, now retired PAF superintendent, displays the mount of the king whose reign is still unchallenged.

SUCH a fish!

The crew of the cannery tender *Quadra* lined the rail and peered into the milling mass of sockeye and pink salmon crowding the trap's pot.

"He'll go ninety!" exclaimed Skipper Chet Small.

"Maybe eighty-five," amended Engineer Baldur Johnson. "He's not long enough."

The object of all this attention was a brute of a king salmon, swimming majestically among his crowded smaller relatives and, like them, a victim of another of man's ingenious devices to take fishes from the sea.

It was the summer of 1939, at the Point Colpoys trap on Prince of Wales Island. The *Quadra* and her crew were about to brail the trap and take their load to the Pacific American Fisheries cannery in Petersburg.

Although the big king was definitely big, no one thought that day about world records. To most of the crew members this was just another highlight of another trap brailing. Sometimes hair seals and sea lions are trapped in the pot—sometimes even small whales. A big king salmon was just a big king salmon, another relief in the monotony of shipboard life.

To the *Quadra's* second engineer, young Joe MacKechnie, the big king meant something more, a good fish for his mother's annual canning order. The two trap watchmen, living in their little frame shack on the trap, had been watching for "a good one" for Joe. It was something he always did, every summer. A good, fat red king salmon, canned in his mother's kitchen, tasted mighty good when the winter snows

lay deep in Petersburg streets and fresh fish was just a summer memory.

Although the fish in the salmon traps belonged to "the company," crew members usually helped themselves to a few choice fish each season for their own use—for canning, salting, smoking, pickling, by whatever private recipes they employed.

Cannery superintendents were inclined to be lenient with hard-working crew members who wanted a few fish for their own use. Anyway, the big kings don't fit the mechanical "iron chinks" that cut up the run-of-the-mill sized pinks and sockeyes, and so they have to be hand-butchered for the can.

Tender crews did not, however, advertise their homeward-headed fish when they left the boat. This understandable caution almost cost the world its knowledge of the existence of the Point Colpoys king.

And, perversely, a triumphant display of the fish to a passing tender crew likewise almost kept the Colpoys king story from reaching the public.

Joe had laid his big king on the *Quadra's* deck after a pacifying blow with a marlin spike to the base of the head. While they were washing down the homeward-bound *Quadra*, Joe and Baldur Johnson hailed the passing tender *Rodoma*, another of the PAF fleet. Together they lifted the big king from the deck for the *Rodoma's* crew to see and admire, but two things conspired to give both men a wondering shock.

First, the Colpoys king was not dead. Hoisted thus unceremoniously into the air, he came to sudden life and flipped mightily with his great tail. It was then that MacKechnie and Johnson realized they had something beyond the ordinary in this fish.

He was a heavy one—a really heavy one!

A Near Miss

Frantically they hung to the thrashing fish, but he was too much for them. He plunged from their straining and slippery hands to the ship's rail. There he hung, teetering precariously, half aboard and half overboard. Both men flung themselves on the fish and in a wild, head-bashing scramble managed to get the big giant back to the deck.

"I clobbered him good that time!" MacKechnie later said, and confessed that it was at this point he decided advertising might have its drawbacks. Not only was it best to keep this fish safely on deck, but a conviction was crystalizing that perhaps this fish should go home after dark.

Thus began chapter two of how the big king almost missed immortality.

Joe carefully stowed the big salmon under a screening cover of bin boards lying conveniently on deck.

Back at the cannery dock in Petersburg, the last sockeye and pink had gone up the fish escalator and the crew had washed down and secured for the night. Twilight was beginning to soften the summer evening shadows when, through pre-arrangement, Joe eased his big salmon over the side into a skiff manned by his younger brother, Don, under the dock. Together the two Petersburg boys rowed quietly up the beach, and together they carried the Point Colpoys king to their back door, where they hung him by his tail.

Life on a cannery tender at the height of the fishing season is no eight on and eight off watch routine. It's go and go the clock around while the runs last, and Joe MacKechnie had had little sack time in the past seventy-two hours. Any bunk, when you can get into one at this time of year, is a good bunk. A bed at home is something you dream about, and Joe had been at sea long enough to appreciate it. He was asleep a few minutes after he crawled in.

"The next thing I knew it was broad daylight," Joe said, "and mother was telling me Mr. Ringstad was on the phone."

A salmon as big as Joe's couldn't be kept quiet. Admittedly with some trepidation, Joe answered his superintendent's call with a sleepy and stumbling attempt to apologize for bringing the big salmon home. His mother wanted a nice king for canning. . . .

A salmon for mother, that's all right, don't worry, that's all right. It seemed there were a dozen people on the phone. No, he hadn't cut it up yet, he'd just cleaned it.

The News Is Out

Dazedly Joe MacKechnie hung up the receiver on a dead line. Doc Rude wanted to skin the salmon. Earl Ohmer, the walking chamber of commerce and head of the Alaska Game Commission, wanted to see it. Scale counts. And Superintendent Ringstad! Never mind about your mother's fish. Can him, sure, but—with some Scandinavian embellishments—don't, please don't cut him up until they get there!

Outside, a crowd was beginning to gather.

Gutted, and after more than twenty-four hours of draining and heavy loss of weight that always follows death in such big fish, the giant weighed one hundred and five pounds. Biologists, figuring closely from comparative viscera weights, estimated the Point Colpoys king to have weighed 126½ pounds when taken—the largest salmon on record.

The big king was no race horse in lines. He was chunky, like a barrel-chested wrestler, only 53½ inches long but with a girth of 39 inches.

As Donald Rude put it, "He was sure something to see!"

Rude, at that time a boy in Petersburg, is now a practicing physician in Juneau with his father, Dr. Joseph C. Rude.

"There had been quite a few big salmon taken around Petersburg," young Dr. Rude recalled. "When I first saw this one, it didn't look unusually large. The back was to me and it didn't appear thicker than normal, and the fish didn't seem extra long, either.

"But from the side! That was the view that shocked you. From a moderate-sized head, that fish just swelled and swelled into back and belly of tremendous proportions. His girth was thirty-nine inches. There was no doubt this was a salmon among salmon."

After taking precise measurements the senior Dr. Rude carefully applied his scalpel. With head, fins, tail and skin parted from the meat, to be placed as carefully in cold storage, he finally turned to Mrs. Lloyd MacKechnie.

"Now he's yours," he grinned.

By The Inch

Cannery Superintendent George Ringstad wired Jonas Brothers, Seattle taxidermists, for a price on mounting the skin.

"Dollar an inch," the reply said.

When Jonas Brothers got their first look at the giant's skin they must have done some swift, if rueful, arithmetic but the famed taxidermists did not renege.

The Petersburg Chamber of Commerce, the Elks and the Sons of Norway paid the handling and mounting charges.

The Point Colpoys king had become famous. Promoters scrambled to "get in on the deal," and offers poured in from everywhere, but the biggest salmon ever caught by any gear was destined for more dignity.

Tale of a Fish

His epitaph is a chapter in ichthyology, a life story reconstructed by Biologist Joseph T. Barnaby of the Fish and Wildlife Service.

"This fish," wrote Barnaby, "was the progeny of a pair of kings—*Oncorhynchus tshawytscha*—which spawned in 1933. The egg hatched out during the winter or spring of 1933-34, and the young fish emerged from the spawning nest in April, 1934.

"It stayed in fresh water until the middle of July, 1935, and then migrated to the ocean, a two-year-old migrant. By the spring of 1936 this salmon had attained a size of nineteen inches, larger than average for fish of this period of ocean residence.

"During the summer of 1936, a short period of unfavorable conditions, such as food shortage, was experienced.

However, rapid growth soon began again. By the spring of 1938, the fish was forty-one inches long, and by the spring of 1939, had grown to fifty-one inches. Taken in the fish trap a few months later, it was fifty-three and one-half inches long.

"This fish was six years old at the time of capture, and is what is known as a six-two—a fish that migrated seaward in its second year and returned to spawn in its sixth year."

Biologist Barnaby explained that the size of a salmon largely depends upon

the length of its stay in salt water. This brute had stayed four summers and a part of a fifth in the ocean, a stay much longer than normal, which accounted for its great size.

There have been other big kings taken through the years that crowded or even slightly exceeded the hundred-

pound mark, but none on record comes even close to challenging the Point Colpoys fish.

A Petersburg Indian best described this king among king salmon when he stood before its impressive mounted bulk recently.

"Big!" he grunted.

By Robert A. Henning

THREE o'clock in the morning. I dreamed deliciously. Great fish leaped to prodigious heights and shook the water as they fell back in crashing crescendo. Hungry fish glared at me from their watery retreats. I fought at least a dozen to gaff. Fish were swimming all about, now and then bumping the boat, rocking it dangerously. Suddenly—a great brute of a salmon, longer than the boat, let out a villainous chuckle and bore down on me, eyes flashing! I shuddered and covered my eyes.

Then I awoke with a start. Someone was shaking me. It was Walt Gerwels.

"Huh?" I rubbed the sleep from my eyes. "Oh, yeah," I yawned. "We're going fishing, aren't we? Be right up."

Gray dawn and gray water. The camp was still sleeping soundly as we tiptoed out of the tent and down to the boat. Two pairs of oars, grub, sail, fishing gear, bait, anchor—everything seemed to be there.

It was a chill Alaska morning and we shivered. Was it going to be worth it? Bits of spray salted our cheeks and the sail rounded satisfyingly. Once well under way, we forgot the shivers. We were going fishing. . . .

We began to take stock of the day's prospects. Gulls were in evidence everywhere and here and there a school of herring splattered on the surface, agitating the water like flurries of rain would do. A good sign! There were surely bigger fish, underneath.

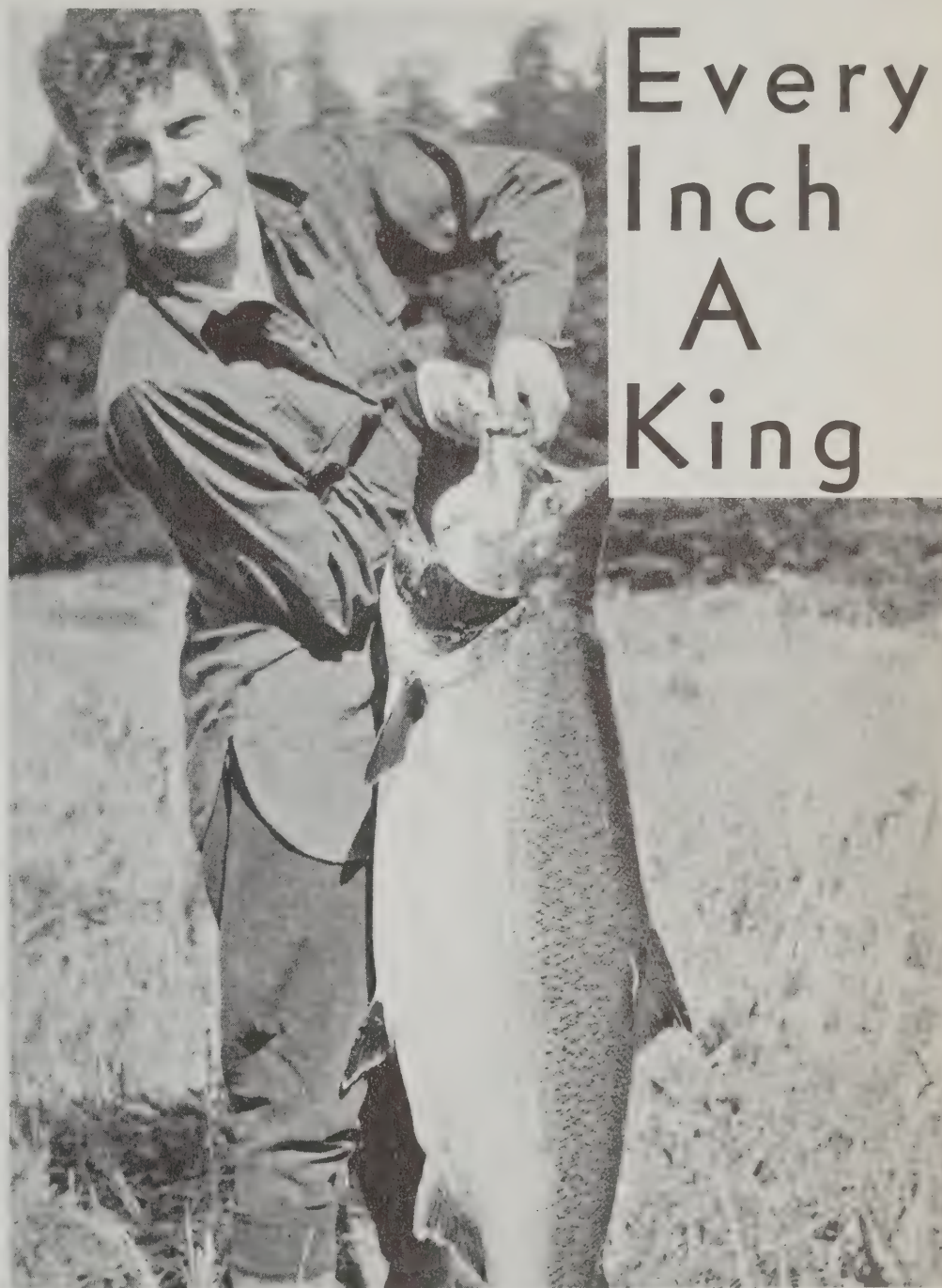
A half-hour passed. We neared our favorite spot. It is just off a little island in Lynn Canal, about half-way between Juneau and Skagway. Here the tide boils and eddies past the outer reef, only to come back again in a great circle. Here in this eddy is a wonderful place for feed to collect and, of course, where there is feed there are salmon.

It was toward this feeding ground we were headed, but someone was there before us. Was it a power troll-er? God, forbid.

However, it proved to be a boatload of townfolk, bent on strip-fishing, as

we were. A bit peeved, and inwardly cursing them for interlopers, we made our way to an anchorage. Had we known what the morning had in store for us, we would have probably welcomed the sight of that other boat.

The anchor hit bottom. I hurriedly picked up my tackle and, putting on a side of herring, cast. No luck. I cast again. Again no sale. The next cast had the right English. There was a mighty slap and a flash of silver at the



Every Inch A King

end of my line. The fish went down, boring steadily for the bottom. Down, down—steadily down. It could mean only one thing. The kings were in!

And it was a king. He wasn't terribly large, but he was a real battler. Twice he came half out of water and circled the boat viciously, his black dorsal fin ripping through the water, only to sound again and resort to the tackle-punishing habit of headsnapping, common to salmon of the king tribe.

Walt had about two hundred feet of line out over the stern, soaking, when I connected. He took it back now in long strokes so we would not foul each other, but the fates had decreed otherwise. I heard a "whunk!" from Walt's rod, and a muffled swearing from Walt, himself. His rod bent almost double and yard after yard of precious gut scorched through the guides. This was a real fish!

But I had an armload of trouble, myself. The little king I had hooked was cutting all sorts of capers. They made it hard to keep the two lines apart. I horsed him up to the boat and kept him churning white water until he rolled over on his side, quite spent. I slipped my fingers in his gills and lifted him into the boat. A sound rap behind the head dispatched him to fish heaven.

When I looked up from my gory mess, I saw that Walt's fish was still taking out line. Frantically, Walt tried to slow the flight of the gut, but it was "no go." That fish had a destination and he was rapidly going there!

Three hundred feet of line was nearly gone and there was no sign of any slackening in speed. The knot where the gut joined the cuttyhunk backing was dangerously close and we prayed fervently that the knot would pass through the guides intact. It did! With half a dozen nerve-shattering jerks, it squeezed through and fled after the gut.

STILL no slackening of speed. Would he ever stop? Bits of felt began to show on the reel can and our prayers were renewed. The reel can was jumping crazily up and down as the line uncoiled, rattling from gunwale to gunwale with a sound like a stick on a picket fence.

Then, again our prayers were answered! The salmon slowed his downward plunge to a stop with nearly six hundred feet of line trailing behind him. For a few minutes he sulked. Then, with new tactics in mind, he rushed for the surface. All thumbs,

Walt strove to take up the slack. Three hundred feet of line came back and once more there was gut in the guides.

A good two hundred feet from the boat, the big king showed himself for the first time. A heavy swirl, and again he sounded.

"Holy cats!" yelled Walt. "Did you see that tail?"

When I had gotten back my breath, I said I had. Why, the darn fish must have been first cousin to a whale, the way he raised his broad rear structure out of water and plunged down on a straight course for Yakasaki!

Walt was sweating and I was doing a bit of the same in sympathy.

Another run and two hundred feet more of line went out. Again the king broached, and again that great tail was raised in ponderous salute before he went down.

It was the same thing for the next hour. Up and down. Up and down. I felt sorry for Walt. Often it would take ten minutes of honest-to-goodness

Fishing trips, I suppose, are failures unless one manages to forget something at home, but why—with a "once-in-a-lifetime" fish "on"—did we have to leave such an indispensable piece of equipment as a gaff at home?

If we only had a few big halibut hooks! Or a gun! Anything, just to get that fish into the boat. . . .

I bent a nail and ran it through a piece of broken thwart. On another such stick I lashed a big bass plug—but these implements looked so pitifully weak whenever that big king showed his broad sides.

Could we beach him? He might get afoul of the rocks.

Could we grab him by the gills? That was out of the question. He would permit himself to be raised just so far, and there, about fifteen feet below the boat, he would hold firm as a rock.

There was but one hope. The stripping party on the boat! They would have a gaff, or something. I rowed

fifty feet in that direction as Walt grudgingly gave line. I stopped. He regained as much as possible, and we repeated the process. Slowly we neared the boat, though sometimes we lost more to the big fish than we gained. Soon we came within hailing distance and we assumed our most pitiful expressions.

"Can we borrow a gaff?" we yelled.

More shouts.

More explanations.

A flurry of excitement on the gasboat. Ah, Doc Williams, bless his

soul, had brought a landing net from Juneau. A last struggle for line, a cautious pass of the net, and willing hands laid the lordly fish on the deck! His great fins fluttered weakly, his big jaws opened and shut spasmodically—a king among kings, of shimmering silver and glowing bronze, beautiful and proud in death.

TWO hours and thirty-five minutes of fighting that nerve-fraying fish had left us tired and weak—Walt from exertion and I from plain excitement. Walt was grinning. The women "Oh'd and ah'd." We males just cursed. He was so blessed big we submitted him to the care of our new-found friends in order that they might ascertain his true dimensions in Juneau.

We got his measure over the radio the next night. He was the biggest salmon of the 1935 season, weighing sixty-two ornery fighting pounds, fourteen hours after catching. He was forty-seven inches long, seven and a half inches thick and—get this—had a waistline of thirty-one inches! Truly, he was every inch a King!



Off for the king salmon feeding grounds near Juneau, where the "King of kings" was caught."

labor to get in a precious hundred feet of line, only to have it fly out in one determined rush. He cursed roundly and shook his rod arm frequently to renew the circulation.

We had cut adrift at the beginning of the fight and were now drifting at the will of the current and friend fish. In a short while, the rushes became shorter and slower, but no less heavy. Putting on all the strain that the light stripping gear would stand, Walt was just able to hold him. Behind the boat was a good wake. We were being towed at about a knot and a half!

Now and then the king would circle the boat, rolling slowly like a porpoise, leaving a trail of bubbles when he sounded. Whenever he poked that black snout out of the water and spat out a mouthful of bubbles, it seemed as though he were saying in a deep and husky voice, "Bottle of beer, Bud, bottle of beer."

SLOWLY, but surely, Walt was gaining line, and I prepared to end the argument with the gaff. Then came the crushing shock! We had no gaff!

Quicksand

By Kim B. Ransier



Hewitt's Photo Shop by Sidney Hamilton

Some of the tides on Turnagain Arm measure as high as thirty-three feet. The unique photograph above shows the unusual tidal action or "bore" that almost caused my death.

THE day broke with clear skies and a nice, warm sun. It was no day for duck hunting as I had planned, but it looked like a perfect day for fishing. It was the middle of October and a chill was in the air—a promise of what was to come. Knowing it would probably be our last chance to fish before the new snow came and the weather turned cold, our party decided to break out the fishing gear and head for the Kenai River.

Five of us made up the eager party—my wife Lois, Harold and Vera Johnson, my sister-in-law Lucile and me. We loaded two cars with fishing tackle, shotguns and ammunition, food for lunch and berry pails for the ladies and headed for the Kenai River. A cool breeze blowing from the snow-covered mountain peaks topped off an almost perfect day.

We were disappointed, when we reached the river, to learn that it was closed to fishing for the remainder of the year, so the women took their berry pails, half the food and one car. Harold and I took the other car and returned to Portage to try duck-hunting in spite of the good weather. Portage is situated on the far end of Turnagain Arm, a narrow extension of Cook Inlet in what is termed Southwestern Alaska.

The day before, Harold had dropped a heavy object on his foot. He had trouble walking comfortably, so he decided to stay in the little house furnished by the CAA at Portage. I was dressed for

hunting and decided to walk to the shore of Twenty Mile Creek.

To get to Twenty Mile Creek I had to cross a small stream, barely more than a foot deep, about a quarter of a mile from the building where Harold had stayed. I had crossed the creek many times a few weeks before while hunting in the area, and I had never had any trouble. Little did I expect that in that innocent-looking spot would I face a slow, tortuous death.

I reached the creek and looked it over. The surface seemed to be hard and solid enough to support my weight. What I didn't know was that extra high tides had softened the glacial silt underneath, turning it into a treacherous, jelly-like quicksand. Some of the tides on Turnagain Arm are the second highest in the world, sometimes measuring about thirty-three feet.

I started across the creek at a spot about ten feet wide. On my third step my right leg suddenly sank from sight. I started to pull it out of the sand, and my left leg also sank into the mire. For a long, terrifying second I was terrified—suddenly realizing with a start that I was facing one of the most horrible deaths.

I struggled as I had never struggled before. I called on every ounce of my strength to free my legs, but I couldn't get either leg loose. Every second I was sinking faster. I had a sudden impulse to throw my shotgun on higher, firmer ground, but on second thought I de-

cided I should hang on to it, thinking maybe it would save me. I struggled—I pulled—I strained every muscle in my body in a futile effort to get free.

Finally I had no alternative but to lie down in the icy water and muck. Thus I distributed my weight more evenly over a wider surface, preventing the rapid sinking. I laid my gun in the muck to help support myself as I struggled, writhed and squirmed. The icy water was chilling me to the bone—I was getting numb and so tired I wanted to just lie there and rest.

My strength was fading fast, but I made another try. Holding my gun in my right hand, and leaning it on the mud as a support, I managed to free my left arm. Then I seemed to be gaining in my effort to free my legs, and I again thought about saving my gun. It was a Winchester Model 12 Pump. I had hunted with it for twenty-five years in North Dakota, Oregon, California and Alaska, and I felt about it as some men feel about a trusted dog.

That was a bad idea. When I tugged on the buried gun barrel with my right hand, the left arm sank again—deep into the sucking, soggy silt.

I rested for a moment and felt my face sinking, almost under water. Another two or three inches of water and I would drown. High tides on Turnagain Arm come in like a tidal wave—with a roar and a terrific bore of as much as six feet. Thinking about them didn't help me any.

I'll never know exactly what happened then. I was more dead than alive, numb with cold and exhausted, but somehow I made one final, superhuman struggle for freedom. Suddenly I was on firm ground, crawling because my legs wouldn't hold me. My heavy hunting clothes—woolen "long johns" and fur-lined parka—were sodden and unbearably heavy with silt and water. My rubber boots were full of it.

By then the sun was down, a frost was in the air, and I felt I couldn't move an inch. But I rested and stumbled to the house, staggering like a wounded man. Harold answered my feeble tap on the door as I collapsed. He carried me into the house, removed my clothes and got me into a tub of hot water.

After it was all over I still couldn't abandon my faithful old shotgun, somewhere in that quicksand of Turnagain Arm. The next morning Harold and I went to the spot, equipped with a fourteen-foot pole and hook. We carried a plank twelve feet long and a foot wide to stand on while we probed.

We probed and probed with no luck, the plank sinking slowly into the mire. Finally, it sank completely out of sight, and Harold accidentally stepped off and started to sink. With much struggling he managed, with my help, to get free. Right then we abandoned the search.

So I learned the hard way, painfully and at the expense of a good shotgun, never to hunt on the tide flats of Turnagain Arm, especially during the season of extremely high tides. Above all, never go out on those flats alone. ▲



Photos by Jim Couch

Dr. Roland Lombard and his eleven Siberians, above, set a record for the thirty-mile heat and took second money. The first Statesider ever to place in the North American, Dr. Lombard was immensely popular with mushers and spectators. "He belongs!" they declared even before they had seen his skilled trail performance.

"Fifty Years of Mushing"... A Brief Summary

By Jim Couch

Much of the early history of sled-dog racing in Alaska has been obscured by time, lost by careless recording or destroyed by fire. The first of the big races, the Alaska Sweepstakes, which began fifty years ago, was run on a gruelling 408-mile course from Nome to Candle and back. It is said that all other activities halted while the race was run, that a telephone line was strung the length of the course so Nomeites could keep track of the racers' progress, that as much as half a million dollars was bet on a single race, and dishonest competitors represented greater hazards than the desolate, blizzard-swept trail.

Allan Alexander "Scotty" Allan, one-time Territorial legislator, was the first of the three-time sweepstakes winners. "Ironman" Johnny Johnson, a Finn, was a two-time winner who, in 1911, established the all-time speed record of 74 hours and 9 minutes on the 408-mile course. It was a costly victory. He was snow-blinded on the trail, and as a result lost his sight completely.

Eventually the Nome-Candle course was abandoned in favor of the 158-mile run from Nome to Golovin and back, but until the beginning of World War II caused voluntary suspension of the sport in both Fairbanks and Nome, the dog races were the big annual event of both the Interior and "the Westward."

From pre-war racing in Fairbanks

come the names of Bob Buzby and Johnny Allen, two of the three-time winners; Joe and Fred Stickman, the great brother-mushing team from Nulato; Andy Kokrine's brother Bergman; Jake Butler, and others. The sons of some of these men are now competing in the North American.

The courses have varied. Joe Stickman, 1928 champion, won on a 58-mile course that rose in elevation from 530 to 2,240 feet. Johnny Allen won on a 90-mile course in '36, 48 miles in '37, 92.7 miles in 1938. Bergman Kokrine in 1940 and Jacob Butler in 1941 ran 165 miles from Fairbanks to Livengood and back.

Mushers Organize

Since 1946, when the Fairbanks competition was resumed after the war as the North American Championship, it has been run on a three-day, three-heat plan though the course and distance have varied. In 1948 the Alaska Dog Mushers Association was organized to manage the races, improve trails and trail conditions, and generally encourage the sport of mushing. Humane treatment of dogs is a jealously guarded condition for participation in all ADMA-sponsored events.

One thing that has not varied is the

whole-hearted enthusiasm of Alaskans for competitive mushing. For forty years and more, the Fairbanks races have been the big annual event in the Interior, the culmination of months of training and preliminary racing in the villages. From the far corners of the Territory, Alaskans in holiday mood have come to watch the races, and the mushers together with their lead dogs have been the heroes.

Get a group of Alaskans together and fun just naturally follows. The logical result of this annual convention is the Fairbanks Winter Carnival, which had its inception back in 1934 and, with a few years out for the war, has grown ever since until it is now a week-long fiesta—hockey games, curling matches, a folk dance festival, an ice revue, snowshoe baseball game, parachute jumping, art exhibits, Eskimo dances, a fashion show by candidates for the title of Miss Alaska, the Queen's Ball, and of course the mushing—the junior races, the old man's race, the weight-pulling contest, and the climax of it all, the North American.

With the days lengthening and the mercury rising at the end of the long winter, Fairbanksians happily close their shops and offices, put on their parkas and go out to celebrate the coming of spring with thousands of visitors to the "Mardigras of the North."



ARCTIC HUNTING



arctic hunt

As the ice sheets crack, the seals move back
Through sullen, shifting floes—
So our skin boats twist in the chilling mist—
We go where the seal herd goes.

Sharp your glance as the sealer's lance;
Silent and skillful the stalk
For meat and hide you must work this tide—
It's a case of "do", not talk!

See, there's your game! Let your steady aim
Quiet that fat seal's bark;
Then back we steer; our way is clear
For our home fires burn through the dark.

J. C. F.

“BOOTS”

by Neva Whaley





Boots' first daily chore is to wake the hired man. No mere alarm clock, he persists until he gets response. Next he fills the woodbox, stick by stick.



Photos by Frank Whaley

SEVENTY miles north-northeast of Fairbanks and forty miles south of the Arctic Circle, on Portage Creek, live Heinie and Jetta Carstens and their giant Husky dog, Boots.

Carstens himself defies Father Time in the way he works his placer gold-mining operation with all the strength and ingenuity of a much younger man. Boots is Carstens' right arm. Through good seasons and bad, fair weather and foul, this great dog serves his master with loyalty and devotion. Now fourteen years old, Boots still does more useful work each day than most dogs do in a lifetime.

Boots' first chore of the morning is one that delights him above all others. He is told to go wake up Frank, the hired man. Away he charges to the small bunkhouse, slams on the brakes, throws back his head and joyfully emits a howl with fancy variations of crescendo and diminuendo that would be the envy of any wolf. His efforts bring mumbled moans and groans from the bunkhouse, but they are not enough for Boots. He tries the door, listens for more sounds. If not satisfied, he tries a new howl. Until he gets an intelligent answer, he persists. This is a task he savors to the fullest.

Seventy miles north-northeast of Fairbanks, in the Circle mining district, Heinie Carstens mines placer gold.





A gold pan is an unwieldy mouthful. So is a long-handled shovel. But what Heinie asks for, Boots delivers. In this remarkable animal the well-known devotion of a good dog is coupled with almost human intelligence and ingenuity.



Next is the woodbox, which needs daily replenishing. He trots back and forth from woodpile to woodbox, carefully transferring stick by stick, until Jetta gives the word, "That's enough for today."

Regularly Boots fetches tools for the men in the mining cut. A loud, drawn-out yell from Heinie may announce his need for the gold pan from the cabin. Jetta gives it to Boots and away he goes. An unwieldy article, he struggles patiently as it slips and slides at various angles, but it never gets away from his firm grip. When it is delivered, Heinie must give Boots something to take back to Jetta. Boots' sense of justice demands that if he takes something from Jetta to Heinie, Heinie must send something back in exchange.

Boots also carries snacks, oven-fresh goodies or lunches down to the men when the work at hand prevents their coming to lunch at the regular hour. Down in the cut, he eagerly awaits any and all orders. Even a cumbersome shovel is not too difficult for him to round up for his master.

The Carstens declare that Boots understands everything they say. He understands so well, in fact, that they get into difficulties at times. If they plan to drive to the nearby town of Circle, they have a spell out the nouns and

Jetta's oven-fresh cookies for the men in the cut! Boots runs fast but carefully. He knows he'll get the first cookie.





Boots' great strength once made him famous. He can still pack forty pounds all day.

verbs or Boots gives them no peace until the trip is under way. Now they find that the dog is learning to spell, so they have to resort to some other subterfuge. They are thinking of studying German, or maybe Japanese, so they can carry on private conversations.

Boots is invaluable as a pack dog. Summer or winter, with a light load or a forty-pound pack in his harness, he keeps up a steady pace. When out hunting with his master he retrieves all game unharmed. A rabbit he will hold down with his nose until Heinie takes it.

Opening or closing a door is just a breeze for Boots' talent. Getting the mail represents more of a challenge, but one to which he is equal.

In the days of his prime Boots could pull an eight-hundred-pound sledload of firewood by himself, traveling faster than a man can walk. This feat alone made him famous in his locality.

Today the great strength is gone, his hearing is no longer so keen, but his amazing intelligence and ingenuity seem to increase with each passing year. Boots looks forward to each day and every duty with anticipation. Mere dog though he may be, to Boots and his owners he is a member of the family and a partner in their mining operation.

Fourteen years old, physical strength waning, Boots' mental powers grow keener. He is eager for each new day and its chores. This great dog is his master's right hand.



Friends For Life

By Gene Kivett



J. Malcolm Greany

The spring breakup ends the Alaska dog sledding season, but sometimes dog sleds are fitted with wheels in summer.

Hal Clester and his nine-dog racing team, below, take their share of prize money each year. Rough, Clester's lead dog, is an exceptionally fine animal.



BREEDING, training and racing sled dogs is the full-time hobby of Hal Clester, homesteader on Big Lake north of Anchorage. It is a comparatively rare hobby for a white man, even in Alaska. Rarer still, Clester has developed his hobby into a paying business.

Said Clester, "When I first started to work with sled dogs I didn't know whether I could make a living at it. I went into it mainly because it was an outdoor sport that appealed to me. I've always been nuts about dogs. Long before I came to Alaska I'd become interested in Arctic sled dogs, and I'd read everything I could get hold of that told about them."

As he talked, Clester sat in a home-made rocking chair on the front porch of his home. The house, which Clester built himself, is made of peeled spruce logs and is of the low rambling design typical of Alaska homestead houses. It nestles against a hill and overlooks the lake.

Along the shore of the lake, some sixty yards in front of the house, are

the dog kennels. Each of the fifty grown dogs he now owns is staked on a ten-foot chain, which allows the animal a circle twenty feet in diameter in which to run and exercise. Each dog has his own house three feet long and four feet wide, with a pitched roof. About the only time the dogs use their houses is when they want to get out of the hot sun, or when a severe wind or rain storm is blowing.

Said Ethel Clester, who shares her husband's love of sled dogs, "In the winter the dogs always sleep on top of their houses, even when it's sixty or more below zero. The snow between their bodies and the roofs forms solid ice. When I get up in the morning I can almost tell how cold it is by looking out the window at the dogs. The colder it is, the tighter the dogs are curled up."

EACH litter of pups, from weaning time until the age of six months, is kept together in a wire enclosure. After six months they are separated and staked out individually to prevent fighting. Arctic dogs, gentle though they are with human beings if well fed and cared for, dearly love to fight one another.

A cream-colored, eighty-pound dog named Rough is boss of the kennels. He is also Clester's number one lead dog. Last year at the Anchorage Fur Rendezvous, a man peeled off ten one-hundred-dollar bills and offered them to Clester for Rough. No sale. Clester thinks a lot of Rough. The dog once saved his life.

Clester came to Alaska in 1939. "I got a job in Anchorage driving a taxi," he told me. "Back in those days, Anchorage was a little frontier town, rough and ready and pretty much wide open. All night long I'd haul roisterous miners and construction workers from one joint to another. I didn't particularly like the job, but jobs were scarce everywhere then. When I wasn't hacking I spent a lot of time with men who owned dog teams. Some of them were Indians and Eskimos. Others were white trappers and homesteaders. A few were business men around town who raised and worked dogs purely as a hobby. I learned all I could about sled dogs, and I made up my mind to save up a stake, get me a wilderness homestead and devote my full time to raising and working dogs."

It was 1947, when he was forty-three, before Clester could get started with the venture. He had found a homestead he liked that was open to filing. He also had a stake—enough money to keep him and his wife in the necessities of life as long as they lived. The homesite he selected was a sixty-acre plot on the shore of Big Lake. As the name implies, Big Lake is a considerable body of water. It has fifty-two miles of shore line.

"I chose this place because I like to hunt and fish," Clester said. "There were—and still are—plenty of moose, bears, spruce grouse and snowshoe rabbits around Big Lake. The lake is loaded with rainbow, Dolly Varden trout, whitefish, mackinaws and ling. And during the salmon spawning season the lake boils with sockeyes."

Clester bought eight dogs from breeders in Anchorage to form his foundation stock. He bought both Eskimo and Siberian dogs.

The Eskimo dog is primarily a work dog, durable and dependable, but slow. It is believed to have originated in Siberia, and to have accompanied Eskimo migrants across Bering Strait into what is now Alaska. The first migrations are believed by some authorities to have occurred about two thousand years ago.

The dog varies in size and color, the prevalent color being buff. Some people claim the animal is actually a domesticated wolf. It is known that breeders have crossed the dog with wolves in attempts to improve the strain. It is pertinent to note, however, that full-blooded wolves, when trained as sled animals, prove inferior to dogs, lacking their endurance and willingness to work.

The Siberian husky is fast, a racer, but inclined to be temperamental. It is a native of northeastern Siberia, and was first brought to Alaska in 1909. It is a clean-cut, graceful dog, generally a silver-gray in color. One characteristic of the full-blooded Siberian is that it often has one blue eye and one brown eye. The Siberian is the only Arctic dog to which the name



Maurice Sharp

Hal and Ethel Clester like dogs, and they like the wilderness. When they set out to raise dogs at Big Lake they didn't expect to make a living at it.

husky can be correctly applied. The name is said to have been coined by the Aleuts.

Other principal breeds of sled dogs are the malemute, Samoyed and McKenzie River husky. The McKenzie has Saint Bernard blood, and was devel-

When the pups are six months old they are staked out individually to prevent fighting. Each has a twenty-foot circle of its own, and its own little house.

J. Malcolm Greany





Manley Sweazey

Sled dogs don't use their houses except to get out of the sun, rain or wind. They sleep curled on the roofs, and the colder it is, the tighter they curl.

oped to produce a superior work animal. It is the largest of all sled dogs, weighing up to a hundred and forty pounds.

Clester bought both the hard-working Eskimo dogs and the fast Siberians

with the idea of crossing them and specializing in an all-around utility dog. This he has done.

"We took those eight dogs," he said, "our one cargo sled and our personal belongings, and got on the train in

Dog-sled races are the biggest drawing card at the Anchorage Fur Rendezvous. In the photo below, Rough digs in as Clester yells "Mush," and they're off on the hundred-mile marathon. Snow is trucked to town for the dog-sled events.



Anchorage. We rode up the line about eighty miles to the section house called Pittman, and there we unloaded. From Pittman to the homestead it's about eleven miles. There was no road then—just a rough trail to the lake.

"We hitched the dogs to our heavily loaded sled and started out. Though the dogs had been broken to the sled, they had never worked as a team. The lead dog was young and inexperienced. The whole team was hard to manage.

"But the worst thing of all was that there was no snow on the ground. It was August, and the day was very warm. Ordinarily, when you work a team when there is no snow nor ice, you have wheels rigged to the sled. But I didn't have any wheels for the sled. The sled had to be pulled on its runners. There was no other way we could get it and our belongings to the homestead!

"The trail was rough. There were steep hills to climb and streams to cross. There were low places of marshy muskeg to slog through. At all times either Ethel or I was helping the team by pushing the sled, and usually the other one was going ahead of the team to fell trees and widen the trail. We finally made it to our homestead, but brother! That was tough sledding! Ethel and I and the team—we were literally dog-tired."

THE Clesters set to work at once building a house. They dragged spruce logs from the hill against which the house now nestles. What mill lumber and other building materials they had to buy, they had to sled in, in light loads, over the dry, rough trail from Pittman. By the time the first snow fell in October they had the house up, chinked and weather-tight.

Within a couple of years Clester was entering dog teams in the various events held during the Anchorage Fur Rendezvous. The Fur Rendezvous is a big, gala affair held every year in February, and it lasts for several days. It is similar in some respects to the pioneer days and gold rush celebrations held annually in several western towns in the States.

The Rendezvous is vigorously promoted, and the officials really go overboard to put on a good show. Eskimo dancers are flown in from northern villages to do their native dances for the crowds. Native painters and ivory carvers are on hand with displays of their art. Bearded trappers bring in prize furs to be shown. The wares of local industries and the produce of nearby homestead farms are neatly arranged in the exhibition buildings. Various athletic games are played and feats of strength and skill are executed by whites, Indians and Eskimos. Large sums of prize money are distributed generously. They even give a prize to the man with the most luxuriant beard!



Manley Sweazey

The Siberian husky, fast but temperamental, was brought to Alaska in 1909.

But the big drawing card at the Rendezvous is the dog-sled racing. There are numerous races, entered by white and native mushers, and various feats of dog-sledding skill are performed. Considerable money is wagered on the results of these races.

Most grueling of the dog races is the hundred-mile relay. It is staged in twenty-five-mile heats over a period of four days, over a course that begins on the main street and extends into the wilds south of the city. During the race a team has to average between fourteen and fifteen miles an hour to get in on the prize money. For a team to average that mileage over such a long course, the musher has to run with the dogs. He can't ride the sled, except for brief stretches when the route is downhill. The result is that this race is mostly a contest of endurance among mushers. The winner of the race is usually some robust fellow in his early twenties who has trained himself and his team for weeks in preparation for the man-killing run.

All races start on Fourth Avenue, the main street. It is interesting to note that, so efficient is the city's street-cleaning department, trucks must haul in snow from the country and spread it over the streets for the sled-ding events. This, in Alaska, in February!

It is during these dog-sled events that Hal Clester comes to the fore and earns, directly or indirectly, most of his yearly income. He enters as many of the events as the strength and fortitude of himself and his dogs will allow. And he always wins his share of the prize money.

Last year at the Rendezvous, Clester

performed a feat of dog-sled craft which he believes is some kind of record. Rendezvous officials told him that they'd heard a fellow up in Fairbanks had hitched up a thirty-dog team and actually driven it through the city's streets. Would Clester consider hooking up a thirty-one-dog team and driving it up Fourth Avenue? Clester would.

He had four sleds brought up, hooked them end to end, then had them loaded with concrete blocks. When he got the thirty-one dogs in harness and hooked to the four-sled rig, Rough, the leader, was a hundred and forty feet ahead of Clester, the musher!

Clester swung his thirty-foot whip, cracked it with the report of a deer rifle, and bellowed, "Mush!"

Rough dug in eagerly and the thirty-one-dog team trotted happily up Fourth Avenue, plumed tails curled over their backs like sickles.

So loud was the applause from the hundreds of spectators who lined the streets that Clester had to run up half the length of the team to shout his commands so Rough could hear them.

The jubilant officials of the Rendezvous were impressed by the stunt to the extent that then and there they wrote out a check to Clester for two hundred dollars.

Clester's activities at the Rendezvous result in a number of orders for his pups and trained dogs. He sells his animals from fifty dollars up, depending upon age, breeding and degree of training. Some of his dogs have found their way to breeders in the States.

"Sled dogs are easy to train," Clester says. "They take to pulling a sled just as naturally as a beagle takes to run-

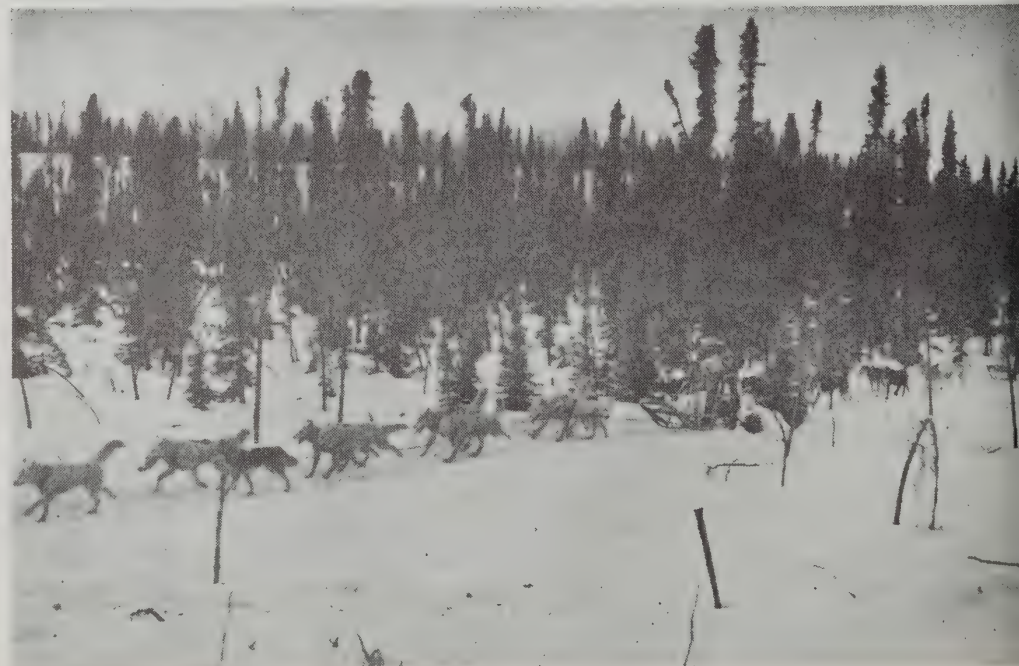


Could Clester rig up a thirty-one-dog team to go Fairbanks one better? He considered, above, and said he could.

ning rabbits. But they're independent and can't be unduly forced. You have to love and understand dogs to get the most out of them. That goes for young dogs as well as for a seasoned team.

"I carry a whip while working a team, but I rarely strike a dog with it. Only time I've ever had to whip a dog was to control fighting in the team, or to check a young leader that wanted

Plumes still waving after twenty miles on the trail, Clester's team passes a competitor in the first twenty-five-mile heat of a hundred-mile relay race. A team must average fourteen or fifteen miles an hour to get in on the money.



to lead the team off the trail after a moose or some other animal.

"Some people, especially Indians and Eskimos, start training their dogs at six months. I like to let mine get their full growth first, so I hold off training until they're a year old.

"Sled dogs love to work. Let me walk off the porch with a set of harness in my hands, and every dog in sight will set up a ruckus. They'll act the way a bunch of bird dogs act when their owner goes out to the kennel carrying a shotgun!"

While sled dogs will rarely, if ever, bite a man, they do make good watchdogs in that they will set up a peculiar howl if there is any irregular occurrence about their owner's premises. I saw an example of their extreme alertness when my outboard motorboat, which was tied to Clester's dock, loosened its moorings and went adrift. It happened in a wild windstorm, during the black of a pitch-dark night. Yet the dogs somehow knew the boat was drifting off across the lake, and they set up a warning howl.

There are four simple commands in the vocabulary of the musher. They are mush, gee, haw and whoa. A well trained team can usually be kept under complete control by these commands.

The number of dogs in a team will vary, depending upon the load to be hauled and upon trail conditions. The average team is nine animals. Most important of them all is the leader. He must be intelligent, obedient and fearless. It is the leader's courage and his willingness and ability to lick any other dog that make the dogs in the team respect him.

The dogs are fed once a day, usually just before dark, and the leader is fed first. Clester generally feeds a specially prepared commercial feed which he gets from the States.

All Arctic dogs are playful, imbued with a deep love for man and perfectly willing to become ideal household pets. The musher doesn't, however, pet his dogs or get too familiar with them. Not if he wishes to have a well disciplined team. His attitude is similar to that of a ship's captain toward his crew. He takes a friendly interest in

them, but remains fairly aloof and distant. Thus the team never forgets who's the boss.

THE lead dog is generally a male, though sometimes a bitch makes a good leader. The attribute the musher values most in the leader is intelligence. The musher knows his life may sometime depend upon the leader's ability to think and make decisions. There are any number of cases in Alaska in which the lead dog has saved the life of the musher and the team by refusing to enter upon rotten ice, by disobeying commands and veering off the trail to avoid a precipice or other hazard, and by finding the way home on storm-ridden, sub-zero nights when the musher was completely lost.

Clester firmly believes that his lead dog, Rough, saved his and a friend's lives on such an occasion. It happened this way:

Clester and a neighboring homesteader, Ralph Marshall, were running a trap line on the Little Susitna River. They were using one dog team, Clester's, made up of ten young dogs, all in training, and Rough, a thoroughly experienced leader.

One day the two men started out from the end of the trap line and headed for Clester's homestead. It was about twenty miles. On the sled they had several beaver pelts and some miscellaneous camping and trapping gear.

They hadn't gone far before a blinding snowstorm blew up. They didn't have a compass, but they weren't worried. Both knew the country well.

But somewhere along the line they took the wrong trail. They had been traveling for some time before they knew for certain they were lost. They backtracked, trying to find where they'd got off on the wrong trail.

The snow was fine, dry stuff. It whipped their faces like needles shot from a gun. They couldn't see more than a few yards in any direction. They couldn't find where they had taken the wrong trail. In vain they looked for recognizable landmarks.

They kept traveling through the

rough, brushy country, following any trail they came upon, hoping to come across a cabin where they could take shelter until the storm blew over. But they found no cabin, and the storm grew worse.

Night set in. Now they could hardly see their own hands.

They halted and held a consultation. Marshall was for staying put right where they were and weathering out the storm. Clester was against that. It was about twenty below zero. The only thing they had in the sled they could wrap up in was the small tarp they had wrapped around their beaver pelts. Though both were warmly dressed, with good parkas and mukluks, Clester was afraid they would freeze to death. He argued that they should give Rough his head and let him go, believing the dog would lead them home.

Clester had his way. They started out again. Other than an occasional mush to encourage the team, they gave no commands. Both men, cold and very tired, stumbled along behind the sled, holding onto the handles. They kept their heads lowered against the buffeting storm. Neither had the vaguest idea what trails Rough was following, nor even in what direction he was going.

Hours later—ten hours from the time the terrible storm had blown up—the desperate little group came out upon the slick, wind-blown ice of Big Lake.

Men and dogs were in a bad way. Clester, utterly exhausted, was riding on the sled, bundled in the tarp and half frozen. Three of the dogs had played out completely and couldn't even walk. They, too, were riding on the sled.

Marshall, a giant of a man with the constitution of a bull moose, was still on his feet, bellowing encouragement to Rough and the other faithful dogs still in the harness.

"That Rough, bless his hairy old hide!" Clester said. "He saved our necks and brought us back to the lake, and led us straight as an arrow across the lake and home. And do you know, we took those dogs into the warm house and fed each one a moose steak. Rough got two!" ▲



Courtesy Royal Canadian Mounted Police

In the soft-snow country of the Canadian Yukon, where trails are made by snowshoe, the single-tandem hitch is used. These dogs are the wonderful Mackenzie River huskies.



Stone Deaf Discard

By Niska Elwell

Everett J. Wilde

A dog team is only as good as its leader, as the driver has no control over the dog team except by the degree of obedience his lead dog gives him. Without an intelligent, conscientious leader a dog team is more nuisance than help.

KENAI, the "leader emeritus" of Bud Branham's dog team, was stone deaf. But that didn't keep him from saving his master from what might have been the worst—and perhaps the last—mauling of his life at the claws of an Alaska Brown bear.

You don't have to have ears to see and smell an Alaska Brownie. Kenai did have fine, upstanding ears, a characteristic that gives dash and that alert look to sled dogs of distinction. Once they had been the sharpest ears on the trail.

But a dog can dispense with ears and still know a Brownie is in the offing, if that rank carrion smell of a big bear comes to his nostrils. A dog does not need ears when his eyes can see a huge brown, shaggy beast as tall as a pack horse blocking the landscape. And if a dog were deaf, blind and couldn't smell, some sixth sense would

still tell him when he was close to one of those huge, menacing brutes.

Bud was mad clear through. He was late getting his trap line strung out. It was now the first week in December, and everything seemed to delay him further. He had reached one of his overnight cabins and found that a bear had raided it—smashed the windows, torn off part of the roof, wrecked his bunk and sleeping bag, pounded the sheet-iron stove flat, bitten holes in all the cans of food, scattered the beans, rice and flour to the four points of the compass, hadn't even left one can without holes for Bud to boil coffee in. That was a crowning insult.

He and the dogs had growled to themselves when they saw the big, wide bear tracks, unmistakably those of a Brownie. Kenai had taken one whiff and growled too, then whined softly to Bud in understanding.

"That's right, Kenai," the man said, putting his hand on top of the big dog's head. "A blankety-blank Brownie! And look at the mess. Now I'll be held up another day patching this shack. Trapping season'll be over before I get started, if this keeps up!"

The big dog moved out from under the man's touch, caught the mittened hand in his mouth and held it lightly—an affectionate trick of Kenai's.

"I'd like to get a shot at that vandal!" Bud told the dog, "but I reckon it's gone to sleep for the winter by now. Tracks aren't any too fresh."

The dog dropped Bud's hand, sniffed the tracks again and growled low in his throat, then moved expectantly along the trail looking back to see whether his master was coming.

"No, I can't go after him tonight, Kenai. It's almost dark and the bear's gone to bed for the winter, I bet. Noth-

ing left for him to eat now."

Kenai could no longer hear the tones of Bud's voice, but he could see his master's lips moving, and by some instinct usually knew what he was saying. So he sat down on his haunches and watched the man unhitch the team and tie the dogs for the night.

Kenai had been the pride of the Rainy Pass sled dogs. All the petting, admiring, photographing and spoiling showered upon him at the hunting and fishing lodge by summer tourists had not turned his head. Some good work dogs have had their usefulness ruined by such frivolity, but not Kenai.

KENAI had been proud in those days when he had thrust his head eagerly into the collar of his harness and held Bud's team of fast, long-legged MacKenzie River huskies strung out in a taut line while they were being hitched up. With dignity he had restrained himself from the lunging and yapping and straining to go, indulged in by the other dogs before the lash rope was jerked loose and the team freed for that first mad, joyful rush. He had been proud to be the leader when the driver yelled, "Mush!" and the muscles under his tawny coat uncoiled like steel springs to launch him out ahead of that wild pack of wolf-dogs charging behind him.

He had been proud to lead that team, proud to swing it instantly gee or haw, right or left, at the driver's command. A team is no better than its lead dog, as the driver has no control over the team beyond the degree of obedience the leader gives him. Get a lead dog who doesn't mind, and the driver has a riot on his hands.

Kenai had been the kind of leader whose master's word was law, and his pride of leadership prompted him to rule the team like a tyrant. Any rookie pup being broken to harness, or any shirker among the dogs who was not doing his share or who was making trouble or confusion, had to settle with Kenai. He was prompt and effective in his discipline.

Then after years of faithful service, Kenai started to ignore Bud's commands on the trail. Bud was puzzled. He was not one to punish a dog for disobedience unless he knew the cause. He demanded prompt obedience from all his sled dogs, for without it the team would have been more of an aggravation than a convenience. But he had a soft spot in his heart for Kenai, and he put up with weeks of annoyance and confusion on the trail before he discovered that the old leader had gone deaf and could not hear his commands.

Bud was sad when he had to leave the old dog at home with the pups and start breaking in another dog for leader. Kenai was heart-broken when both his beloved master and the team he had ruled so long deserted him. He howled his heart out mournfully the

first day and night, and the caretakers at the lodge could do nothing to pacify him.

They took him inside to lie on the rug in front of the fireplace, and tried to comfort him, but he sighed and whined. When he fell asleep momentarily, he sobbed softly in his dreaming. Then his feet started to move and muffled in his throat was the happy woofing of the team's morning start. The caretakers shook their heads sadly at Kenai's grief.

The next day Kenai slipped out the door between someone's legs and dashed down the trail. When he overtook Bud and the team at their next overnight stop, Bud put his arms around the old fellow's neck and put his head down on the dog's.

"Okay, boy. I won't leave you home any more. You can be the loose leader. Anyone who thinks this much of me can go right along wherever I go."

Bud was plenty grateful for the faithful dog's presence in the days that followed.

After he had patched up his trail cabin he set off hastily the next morning to finish stringing out his trap line. Some hours later the sled dogs, who had steadied down from that morning dash, perked up their sharp ears and set off galloping down the trail. Bud tamped on the brake and said to himself, "Now, I wonder what's eatin' 'em. Coyote or lynx ahead, maybe. Or a moose."

Then the team almost skidded to a stop. The new lead dog, not yet accustomed to keeping his team strung out in place, let them bunch up and tangle the rope. Bud yelled sharply at them, and when the leader gave a



Kenai, shown with Bud above, had been the pride of the Rainy Pass sled dogs, intelligent, conscientious, proud of his job as leader of the dog team, unspoiled by petting and admiration.

guilty leap ahead, some of the others were dragged and scrambled out of the heap to leap lightly over the tow-line and back into place. But the harnesses were twisted and Bud stepped heavily on the brake as soon as the team was in line.

He went up ahead and straightened them out, then took time to scrutinize the big tracks in the snow that had caused the dogs to skid to a halt. Kenai, who had been running loose ahead, came back to him and growled low in his throat.

"Whew!" Bud whistled softly. "That blankety-blank Brownie again, and his tracks are so fresh they're almost

Nothing could make a trapper more angry than to come back cold and hungry and find a marauding bear has made a shambles of his cabin and food supplies.

U. S. Fish and Wildlife Service Photo by Frank Glaser





Bud Branham is a big-game guide and commercial pilot, and was a Navy pilot during World War II. Kenai, shown with him above, likes flying as well as mushing. Once Kenai accompanied his master on a winter flight to the States.

steaming. Now, why isn't he in bed?"

Kenai was looking down toward the stream and sniffing the light breeze. Bud looked at him.

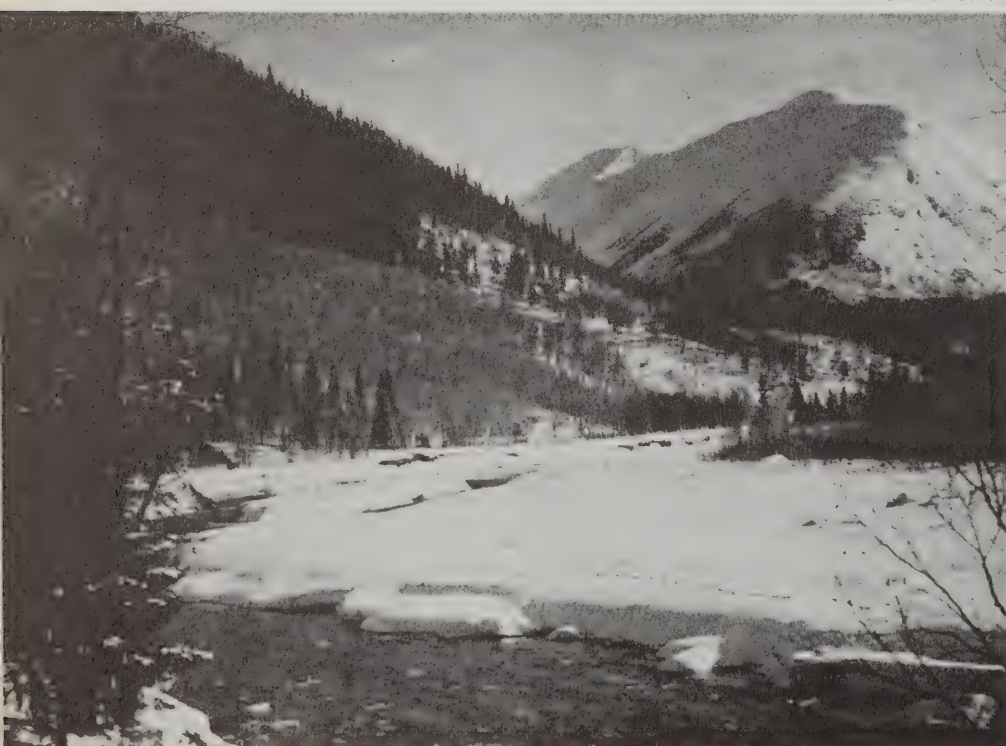
"Well, boy, I guess you answered my question. One of the guides said they got a moose down there in that gully, and I bet that old Brownie hasn't gone to sleep yet because he's feeding on

what's left of the carcass."

Kenai nudged Bud's knee. The other dogs were whining and restless. The man pulled an old .30-30 rifle out of its boot on the sled and looked at it ruefully. Half to himself and half to Kenai he remarked, "I never did try this thing. Took it in trade from the guy that sold me his whole camp out-

Bears are all supposed to be sound asleep in their dens by the time trapping season begins, and they're supposed to sleep until the snow begins to melt.

Charles J. Ott



fit. I wasn't looking to find any Brownie prowling my trap line this late in the winter. Wish I had my good rifle with me."

He tarried only long enough to tie the team fast to a tree so there would be no trouble while he was gone.

"I got to get that sonovagun," Bud muttered, picking up the rifle again. "He's going to cost me money every time he tears into my supplies. And let a bear start marauding, and he'll keep it up the rest of his life. He's one character I can get along without."

KENAI looked back and started down the bear trail.

"Sorry, boy," Bud said motioning him back. The dog came obediently to heel. "I got to tie you up too, boy. You're so deaf you'd never hear me yell at you if we got into close quarters, and I don't want you to get clawed up. And furthermore, the book says you don't hunt bears with dogs in Alaska. 'Tain't sporting."

Kenai looked crestfallen when Bud found a light string in his pocket and tied it to the dog's collar. But the man led him to the front of the team and motioned him to lie down, and tied him there. It worked. The old dog seemed to think he was now back in harness at the head of his beloved string of huskies.

Bud followed the bear's trail and found a gully that led down below the stream's high banks. He peered cautiously above the rim and saw a Brownie feeding on a moose carcass, just as he had surmised. Right at that tense moment he felt a nudge behind his knee and heard a low whine.

He whirled in annoyance and saw Kenai with the broken string hanging to his collar. He had chewed through it in no time. Bud was irritated. Damn the dog! He'd give them away! Didn't he know bears have ears? Then he realized that Kenai had not seen the bear yet because of the high banks.

Another whine was choked off by Bud's glove, slapping down across the dog's nose. That was why Bud had tied him in the first place. You couldn't speak orders to a dog who couldn't hear you, and he hated like the devil to have to slap his old favorite that way.

Then he raised the .30-30 to fire at the bear. It snapped and missed fire! It was below zero, and some rifles have a habit of doing that. Or maybe the firing pin was too short. Bud was cussing himself for not having taken time out to try it sooner.

The bear had raised its head and was looking their way. Bud figured he'd better get the hell out of there, so he started to sneak off. But the big Brownie had heard them. He came hell-bent to chase the intruders away from his feeding grounds. It was the only grub left in that winter world, and the bear knew he'd better guard



Kenai was the most sorrowful dog on earth when the team he had ruled so long hit the trail and left him home.

it carefully. Blamed if he was going to bed until he had eaten it all, and no dog and two-legged man were going to share it with him or chase him away from it! He'd show 'em!

Bud snapped his useless rifle again. The last shell only plinked. He took to his heels and dived for a cottonwood with the lowest branch about ten feet up. He would have lost the race, but Kenai dashed out and distracted the bear's attention for several seconds. Then the bear swept on, but Kenai dashed out to one side, circled the oncoming bear, and sank his teeth in from behind.

Bud, trying to scramble up the tree, made a valiant lunge for the branch, thinking that if he didn't catch it going up he'd probably catch it coming down. He'd heard a joke about that once, but never thought he'd have to jump that high himself.

The bear stopped long enough to shake the dog loose, but Kenai was too fast for the huge claws. The bear lunged forward, but Kenai got hold of him again. The brute was now so near the man that he didn't bother with such a mosquito as the dog must have looked to him. He plowed on, dragging the dog with him, and reared up on his hind legs to swat the limb ten feet above ground just as Bud got there.

Kenai's teeth must have pierced the tough bear hide about then. With a snarl the bear dropped down and whirled to crush the pesky little canine. But Kenai was not there when the big, rough-soled paw about the size of a ham came down with a smack onto the snow.

The big brute chased the harrying dog away again and again. Three times they ran a couple of hundred yards. But as soon as the bear returned to the tree, so did the dog, to grab the bear by the flanks again.

Bud, shivering up the tree in the zero air, muttered to himself. "And I slapped the poor old fellow to make him stop whining! He should have

slapped me instead. I'm going to ask someone to kick me with both feet if poor old Kenai gets hurt!"

But he noticed thankfully that the dog had the edge on the bear because the crusted snow held his weight, while the bear was so heavy that he broke through and floundered. Thus the dog was always able to outdistance the bear, and Kenai had an uncanny instinct for letting loose and getting away before it was too late.

Bud sat up there an hour in the cold while the fight raged hotly beneath him. After their third chase of some distance, the dog came back alone and sat trembling with excitement beneath the tree, watching up the bear's trail for some time.

Bud came down cautiously and hugged the big dog, who licked his face with loving tongue, at the same time watching sidewise across the man's shoulder to see that the bear was not returning.

"That's about as close a call I ever expect to have, Kenai," he whispered, and although the dog could not hear him, he seemed to understand.

Bud rubbed some suspicious-looking moisture out of the corner of his eyes and a sardonic smile twisted his lips as he thought that some of the young punks who had considered him an exceptionally hard-boiled Navy commander should see him now—hugging a dog and blinking back tears!

Then they eased from tree to tree for insurance against another surprise



Once a bear starts marauding, he will keep it up for the rest of his life.

rush from the bear.

When they got back to the team the dogs all jumped up with impatient woofing. One of them grabbed Kenai playfully, by the muttonchop whiskers alongside his face.

"You mutts shut up," Bud told them. "If any one of you ever lives to be as good a dog as Kenai, you'll have something to woof about." ▲

If a dog is deaf, he can smell the rank odor of a Brown bear, and if he were deaf, dumb and blind, some sixth sense would warn him that a bear was close.

P. W. Holzgraf



POOR LI'L FELLER



by Lois F. Owicki

THIS is the story of a tiny red squirrel. The saga of her life is of no great consequence, perhaps, but it is a tale of triumph over the law of the fang in the Alaska wilderness.

Just what befell this squirrel before she came into our lives, we could only surmise. She was injured, grievously. My own guess about the source of her injuries was greatly influenced by the appearance of two snowy owls in our vicinity about that time.

That time was November; the place, the CAA station on Rodgers Point, on the Peril Strait side of Chichagof Island. The day was wholly Alaskan—fresh, cloudless, new and unspoiled in its breathtaking beauty.

Jack, our eleven-year-old, was happily engrossed in some outdoor project and I was busy with the weekly ironing, when his muted "C'mere, Mom," took me out the back door. Cautiously I approached him, forewarned by his tone that silence was paramount.

There on the gravel crouched a trembling mass of bone and reddish fur, the emaciated remains of a 1957 model squirrel. The right hind leg was mangled, the fur was blood-clotted and each tiny rib and vertebrae could be identified.

"Poor li'l feller," Jack said. "Poor li'l feller!"

I whispered to him to stand guard while I got some of the popped corn we use to feed our animal friends. The guard duty was necessary. Delightful as they are, our tame squirrels resent the intrusion of other squirrels into their territory—and no Monaco-size kingdom for these little monarchs. Their territory is an empire and they defend it with tooth, nail and voice.

Poor Li'l Feller, for that became her name, was still on the road when I returned. My presence seemed to disturb her no more than Jack's, and we were able to circle her with the popcorn. Hunger overcame her innate wariness and she gobbled her popcorn fence, scarcely pausing for breath.

Finally, her hunger appeased, we ceased to be nonentities and became

formidable giants threatening the tiny thread of life she maintained. We made no attempt to stop her flight—if that's what you could call her stumbling, dragging gait. We followed her to the protection of the nearby undergrowth to ward off any possessive monarch of the local squirrelhood.

It was behind the mink stump that we saw Poor Li'l Feller next afternoon. We hurried with our popcorn. She retreated, we advanced, she retreated. At last a log stopped her. We placed the popcorn in a heap and stood in the mink path to forestall any marauding by Stinky, our pet mink. After she had eaten her fill we watched Poor Li'l Feller drag herself across the path, through the garden and into the undergrowth.

Timid Guest

Next day we put food in the place where she had twice disappeared. The other squirrels promptly ate it or secreted it against a hard winter. Poor Li'l Feller showed up behind the mink stump. Again we played the retreat-advance game and deposited food. She ate and left as rapidly as possible.

This routine went on for ten days. Then Poor Li'l Feller disappeared.

Our animals seem to think that the Government built the Rodgers Point station exclusively for their convenience. The purpose it serves as a link in the great communications system of the Civil Aeronautics Administration is of no importance to them. The modern ranch-type house is here solely to hold a feeder on the windowsill, the ground has been cleared to make room for other feeding stations, and access to the trees is to facilitate the hanging of birdhouses.

Around the station there is constant movement of small animals and birds, sometimes lovely as a painting, always amusing. The squirrels frequently chase the greedy Stellar jays when they try to make off with overloaded beaks. The jays, unable to fly at their customary altitude, have to jettison some cargo, which the squirrels promptly claim and add to their stores.

The feeder in the windowsill has always been the favorite. Peanut butter is spread there twice daily, and the forest grapevine whispers of its presence. The influx is immediate, and the tenacity of the lucky squirrel who first attains the platform is an awesome thing. While the little pink tongue laps up the tasty substance, the black eyes move watchfully and the rotund body quivers in a combination of ecstasy and warning as the squirrel savors and scolds. Many battles have been waged on the feeder. Numerous little marks on the ramp attest to the obstinacy of the late arrivals.

We stopped putting popcorn behind the mink stump when it remained untouched day after day. By December Poor Li'l Feller was only a troubled memory. Then one evening several hours after dark, John went into the kitchen for a glass of water. His habitual tread is that of a man who stalks game with gun and camera. We came as quietly when he summoned us in a whisper.

She's Alive

There on the feeder was Poor Li'l Feller. Although the wounds had not yet healed on her head and back, the clotted blood was gone. Her tail lacked the usual fullness and she was unable to curl it over her body. The broken foot was still twisted and useless, her fur was dull and her back arched in an unnatural manner. But she was alive, and no longer emaciated.

Five o'clock seems to be the squirrels' hour for bedtime snacks during the winter, but here was Poor Li'l Feller at nine o'clock! Whether by reason or instinct, she had come while darkness would protect her from the selfish rudeness of her own clan, and she managed to elude the night-hunting carnivores. We watched for fully fifteen minutes while she ate, then slid down the ramp and disappeared.

An advertisement once asserted that a single sandwich of peanut butter is equivalent in nutrition to a steak dinner. The ad may have exaggerated, but peanut butter was obviously the right food for Poor Li'l Feller. Nightly we placed her meal on the feeder, and she arrived with a precision that a scheduled airline might envy. We watched her performance as if it were a favorite television program.

Then Poor Li'l Feller didn't show up for three nights in a row. We talked of martens and other predators, and gave her up as lost.

New Schedule

After an unusually long evening of cards with a guest who was leaving us after the Christmas holidays, we were having coffee in the kitchen at two-thirty in the morning when we heard a

scratching on the feeder ramp. There, again, was Poor Li'l Feller. She settled down, waded skillfully into the waiting peanut butter, ate it all and departed. Meal for a marten, indeed! Our star had merely changed her schedule to appear on the late-late show. On two successive mornings we checked sleepily and learned that she was enjoying her meal at the new hour.

By March, when the Alaskan day had begun to lengthen noticeably, Poor Li'l Feller had joined the daytime regulars. She had now attained great speed with her scurrying gait, which is not unlike a mink's humping run. Her fur was glossy and had begun to cover her well-healed scars. But she was timid and cautious with her own kin, who scolded and chased her. Often one of us would interfere and distract a jealous monarch while she made a getaway, but on the whole she fared quite well.

Her timidity was limited to creatures of the woods. Soon she began accepting food from our hands, and eating while we talked to her. Later she got the idea of walking slowly toward her home as we approached with food, then stopping at the threshold and graciously accepting our offering. Our little friend was not only clever, she was inclined toward laziness!

Today Poor Li'l Feller stands tall among the squirrels of Rodgers Point. When a belligerent cousin warns her away from the empire, she chatters her warning right back. She will never be

able to hop or climb with the agility of her birthright, but her speed is remarkable. Her back, still strangely arched, she covers with a bushy tail that now conforms to the curve of her body.

Several times a day we find her cavorting at our feet or attracting our attention from a nearby log. She waits patiently at her chosen spot until we take her food, and presses her little nose

against our hands as we feed her. Lately she has allowed us to touch her head with an extended finger, and the most recent triumph was mine—when I stroked her silky haunch and felt the warmth of her now strong life against my hand.

Someday soon she will reward our patience and care with her complete trust. She will let us hold her. ▲

Five p.m. is bedtime snack time in winter, too late for good light conditions.

Mrs. Jack L. Rose



Kibbee

by Thomas Martindale as told to Mae T. Krouse

Not so big as the Browns of Kodiak Island and other areas, the Grizzlies of northern British Columbia far outclass the bears of Davy Crockett's famed hand-to-claw encounters.

Ordway's



ON A HUNTING trip in northern British Columbia some time ago, our head guide was Frank Kibbee, an excellent guide, a good trapper and a rare individual of whose kind the world does not produce many.

Kibbee had drifted north from Montana to Bear Lake some years previously, and had found life as a trapper and on occasion a guide reasonably satisfying and prosperous.

But Kibbee did long for a wife. As women are few and marriageable women fewer still in that sparsely populated area, there was no one within range for personal courtship. Hearing that an advertisement, if properly handled, would bring results, Kibbee tried it. He was witty and had an intriguing way of saying things. He drafted his plea and sent it to the nearest local newspaper, in Ashcroft. The ad was so earnestly and oddly written that some magazines picked it up and published it for its humor and human interest.

In response he received sixty-five answers! After a process of elimination he narrowed the prospects down to two, upon whom he was willing to "pay the freight." In due course one of the two ladies accepted. She is an English woman and she traveled several thousand miles to meet him. So far as I know, neither was disappointed.

From my personal knowledge of Kibbee, he was a wonder of strength, endurance, agility and nerve—the qualities necessary if a man is to make good in the North.

Some time after our party returned to the States, we heard by letter of one of Kibbee's more recent adventures:

He had set a bear trap about a quarter of a mile from his house. About a week later he went to check the trap. It was missing, but an unmistakable trail showed which way it had gone. Kibbee followed. He found bear and trap on a steep hill about a mile from his house. The toggle of the trap had hung up several times, but each time the bear had chewed itself loose. Now it had only a short piece of toggle left, and it was one mad bear.

The bear was on the uphill side, and close. Kibbee opened fire and wounded him, but didn't stop him. He came crashing down the hill and they had an awful fight—bare hands against bear claws and teeth. Finally the bear walked away and died, but not without another shot from Kibbee.

During the scuffle Kibbee's main efforts had been directed toward keeping the bear from chewing his throat. His hands were covered with tooth marks

and both arms were badly mutilated, but his head got the worst punishment. The right half of his face, including teeth, was torn aside, and his scalp was fearfully lacerated.

Kibbee walked home. A man from a survey party camped on the lake shore went at once for a doctor, who lived twenty-two miles away. When the doctor arrived, at four-thirty a.m., Kibbee could not speak because of his dismembered jaw. As soon as his face was stitched together he began telling the doctor just how it happened, and he described the fight round by round in such an entertaining manner that he kept the doctor laughing all the while he was working, which was the better part of a day.

There was grave danger of blood poisoning, and Kibbee had a bad clout on the ribs, probably from the impact of the trap as the bear swung at his intended victim. The doctor had grave doubts about Kibbee's chances. But five weeks later he was ready to have some splinters of bone removed from his jaw.

In spite of his condition Kibbee was determined to make a big fur catch, so he got a partner to trap with him. He also got a woman to stay with his wife at Bear Lake while he was away. They got their last load of supplies to Sandy Lake and started to work the next day. Five days later Kibbee was returning from a five-mile trap line, and was crossing a beaver pond about a mile from camp. The water had receded under the ice of the pond, and Kibbee went through. His revolver, a self-cocker, was tied to his belt without a

holster. Somehow it discharged into his leg.

Crawled a Mile

When his partner got to camp that night from a longer trap line to Little Lake, he found Kibbee in his bunk. He had crawled the last mile. His knee was badly swollen and discolored and he was in great pain. Immediate medical aid was not to be had, so they decided to operate at once. Kibbee, with a jackknife, made the initial incision over the spot where the bullet lay. Then his partner dug down, located the lead, loosened it and hooked it out with a piece of wire. It was a .38 special Smith & Wesson bullet. One side was shorn flat from having slid along the bone.

Kibbee was then alone for two days while his partner went for help. He returned with three other trappers and they moved Kibbee back to Bear Lake, partly on a stretcher, partly on a sled, and down Bear Lake by canoe. They were on the trail for five days, and they had to camp out in the open for three nights. Worse still, they broke through the ice several times while crossing frozen streams and ponds.

This time the doctor, knowing Kibbee's stamina, was more optimistic. He promised him full use of his leg again after a few months. And he was right. Kibbee, scarred but mended, was ready for work before the next hunting season came around. ▲



The Grizzly was uphill and very close. Hampered by the trap and its entangling toggle, he was a mad bear through and through.

Painting by Chas. Phil Hexom



live off the land

When dogs howl long in hunger,
When the cooking lamps are dry,
When the caribou have vanished
And the seals are scarce and shy;
Seek the nearest ice-locked water,
Drill your hole and drop your hook—
Fat fish have good oil for burning
And good food for you to cook!

J. C. F.



ARCTIC FISHING



Photos by Myram Tunnickliff

This is Point Breeze Farm in the Matanuska Valley where Dick and Myram Tunnickliff literally "tore out by the roots" a charming homestead.

Letter from Matanuska

by Myram Tunnickliff

Editor's Note: We are sure you will enjoy Mrs. Tunnickliff's "Letter from Matanuska." This actually was a letter, and it points up how easy it is to tell your Alaska Sportsman editors about "living on the last frontier"—just write us a letter telling us your experiences in this great land of ours north of '54—whether you are passing on a recipe from the kitchen or telling us a tale of hair raising adventure with the Kodiak bears, pioneering a new business or cleaning a Klondike sluice box. And do also as Mrs. Tunnickliff did—send plenty of pictures—good glossy black and whites, preferably, but as in the case of Mrs. Tunnickliff we made black and whites from her 35 millimeter color slides.

We had another letter from Mrs. Tunnickliff that we'll run in another issue. It will probably carry the title of "Moose in the Chicken House"—which tells the story of an experience that will match most big game stories.

We'll see you at Point Breeze farm when the new butter is churned.

IF YOU were here in person we'd say, "Welcome to Tunnickliffs' Point Breeze."

Our Point Breeze dairy farm sits high on the bank overlooking the Matanuska River, and I think you'd agree that our valley is one of the loveliest spots on earth. We are guarded on the north by the gold-bearing Talkeetna Mountains, and our east and south sentinels are the picturesque Chugach Range. We even have our own special glacier that we can see from our upstairs window

Summer surrounds us with a riot of color. Wild roses, wild celery, larkspur and fireweed make the biggest splash, but if you delve into the woods you will find a veritable fairyland of tiny flowers and mosses in brilliant shades. And the homemaker delights in the raspberry, currant and cranberry bushes with their heavy loads. Even the

darting green swallows and the fat, saucy robins seem a little brighter-hued in Alaska.

If you need a reason for being glad you're alive, just take a deep breath of the woods- and flower-scented air. My neighbor, Gretchen Hamann, tells me that the sweet-smelling trees are balm of Gilead. If you add to their fragrance the smells of the mountain ash and the crab apple blossoms in our front yard, and still find no reason to smile and be happy, you're a hopeless case. You'd never make an Alaskan.

Alaskans are a breed of people all their own. I'm thoroughly convinced that our friends and neighbors here are the "dear hearts and gentle people" of the song. Our nearest neighbors represent a chronology of settlement in south-central Alaska.

Bordering on the south is the land of a stalwart Norwegian, Olav Holtet, who came to homestead in the McCarthy area in 1917. Though he is retired from

his job of blacksmith with the Alaska Road Commission, he keeps actively busy improving his property and helping all of us around him. He is an avid reader and a fascinating conversationalist, as he remembers everything he reads, and his knowledge of Alaskan history is limitless.

Between our place and the Talkeetnas is the farm of LeRoy and Gretchen Hamann, who came to the Territory as colonists in the 1935 settlement of the Matanuska Valley.

The government colonization project has been criticized to the hilt, and often, no doubt, for good reason, but the families who have remained through all

the hardships and tough times are the cream of the crop. I'll never forget the time Roy Hamann came through a snowstorm with a crib strapped to his back, to make sure there'd be a warm bed awaiting our new son, John, when we brought him home.

And when our boy, now six, was ill last spring, our neighbors to the west of us, the Len Allmons, who arrived in Alaska in 1947, kept him supplied with his favorite cottage cheese and ice cream.

With people like these, it's no wonder Alaskans are known for their friendliness.

I've often heard that a sourdough is

someone who's soured on the country and doesn't have the dough to leave, but I believe that anyone who has lived through a winter here and loves it can qualify any time as having graduated from cheechako to sourdough. There's nothing quite so invigorating as the smell of wood smoke curling through the crisp air on a sunny winter day. Blue is the predominating color of winter, with the blue of the sky and the blue-white of the mountains. More often than not the sun adds pink shadows to the picture.

We have now experienced nine winters, and each has been a challenge—and a joy, too. I can't imagine any other kind of life, although we didn't begin our married life Alaska-bound.

Usually when a Midwestern minister pronounces an Iowa farm lad and a girl man and wife, the couple can expect to settle down to a comfortable "cow, chicken and pig" existence—perhaps not overly adventuresome, but nice. Certainly that was what I expected.

Before we were married, Dick had made a remark about going to Alaska. I, with visions of Eskimos in front of igloos, had demurred. "No, thank you. I'll wait until it becomes a little more civilized."

Call of the North

But soon his enthusiasm for the North, which he'd felt since teen-age trapping days, caught me up too, and a year and a half later found us starting out on a bleak February 1, fortified with long-handles and layers of woolen shirts. With our nondescript dog, Susie, a house trailer full of our possessions, a Jeep lovingly called Willie, and a great deal of bravado, we left for the country we planned to make our home. Everyone assured us we were out of our minds, but we felt in our hearts that Alaska was the place for us.

Often Outsiders have asked whether we don't get lonely. Our only answer is that we live on a blacktopped highway and have had as many as forty-nine visitors in a single day. We have all the advantages of Stateside living—electricity, running water, milking machines, electric bulb milk tank and telephones—and some that Statesiders haven't thought up yet.

I can't say we've always had them, for we haven't. We've hauled water, even melted snow for water a few times, washed clothes on a board, used gasoline lamps, but no doubt we all appreciate our modern conveniences the more for having gone without them for awhile. We enjoy television, like Americans everywhere, but how many of them can, if the fancy strikes them, go to watch the sled-dog races nearby or the Copper River Indian dancers at the local fair?

Back in 1949 when we arrived in our valley, we had ideas of homesteading



The Talkeetna Mountains from our front yard with Hamann's barn in the right foreground.

Flowers grow profusely in the long summer daylight at Point Breeze.



and raising beef cattle, but it didn't take us long to see that wasn't a paying proposition. In July we moved onto a colony farm, and in January of 1951 the deed at last became ours.

We had raised beef cattle and pigs back in Iowa, and we didn't completely forsake porkers. I have a hilarious recollection of three jolly Alaskan pigs that became inebriated on the local school garbage, which had fermented.

But it was to cows that we really turned our attention—big, wonderful cows, each with a personality strictly her own. There is Eleanor, shy and retiring; Bubbles, brash and headstrong; Maxine, who, no matter which direction the other cows go, sets off in the opposite direction. Often I've felt it would take a full-fledged psychiatrist to fathom their innermost thoughts, but no matter what their personalities, all the cows respond to affection.

The milk from our herd is marketed through the Matanuska Valley Cooperating Association, and if we raised vegetable produce and eggs, the co-op would sell them for us too. We do have chickens, but they are more than four years old and semi-retired, and we have only eleven. They do little more than keep the family in eggs.

Though we don't raise vegetables to sell, we always have our own garden. We raise almost everything that can be grown elsewhere. The hot-weather plants such as tomatoes, cucumbers and

peppers we raise in a cold frame attached to the house. This summer we even have promising-looking sweet corn on the south side of the house, and we're hoping it will be "knee-high by the Fourth of July," the Iowa criterion for good corn.

Dick plants barley and oats for grain, oats and peas for silage, brome grass and alsike clover for hay. Our many hours of sunlight in summer make up for the slightly shorter growing season, and yields are highly respectable.

Farming in Alaska is a continuous process of learning, and I'll continue to learn more each year. But last summer I felt I'd progressed at last out of the greenhorn stage. My neighbor arrived breathless at our house to announce that her cow was calving and needed help, and her husband wasn't home. The cow, Goldie, and I managed nicely, and I felt that I had arrived.

At first, when people wrote that we were pioneers we pooh-poohed the idea, but after picking up acres and acres of roots from newly cleared land, I decided our Stateside friends could call us pioneers if they wanted to. I often wonder whether anyone has calculated the number of tons of roots that one acre can yield. It's a prodigious amount, and every time the land is plowed, more roots come to the surface.

Winter finds us facing the wind that blows straight off the Matanuska Glacier. Routine chores become doubly dif-



■ My neighbor Gretchen Hamann thinks nothing of coming to call aboard the family tractor. She and her husband came to Matanuska in 1935.

ficult, and even walking from building to building may be a real effort.

By ordinary standards our life would be considered trying at times, I guess, but how many can boast, as we can, of the beauty forever around us, and the real excitement? We've never been bored, nor do we expect to be.

If picking up roots on a newly cleared field is back-breaking work, it's counterbalanced by the thrill of seeing our young son riding his horse with his puppy bounding happily behind. If milking cows morning and night is monotonous, there's a new-born calf with the universal charm of the very young. The morning sunrise, the fresh, clean air, the smell of newly turned earth—none of these things can be entered in the cash books, but we figure them as assets.

We're here to stay. ▲

A Few Homesteading Facts

by Oscar Downing

A GOOD many people have been writing to me asking advice on homesteading in Alaska.

It is not my contention that this homesteading article is the final word on "how to do it" in the North. But here is, to the best of my ability, the knowledge gleaned through years of actual, and oftentimes painful, experience by not only myself but most of my neighbors in Alaska.

In the order of their importance, the most often asked questions seem to be as follows:

1. Can you make a go of homesteading in Alaska?
2. How can you pick good land?
3. What are the conditions most favorable or unfavorable to cultivation?
4. What can and cannot be raised?
5. Is the produce any good after it is raised?

Taking these questions in reverse order, how about quality?—or as one information-seeker put it, "We've been told the food doesn't have the flavor of food grown in the States. What's your opinion?"

■ Homesteader Dick Tunnicliff is proud of Johnny, his son, his fine herd of dairy cattle, his barn, and a wife that can write as well as dig roots.



I told him, "What you have heard is bunk. It is my considered belief that anything grown in Alaska is superior to its counterpart grown Outside. This holds true for flavor or texture or both as the case may be."

For the sake of the dubious, let it be said there is no bias or prejudice involved in this statement. I have no axes to grind.

Peas, especially, fall into this category. The Northern product is sweeter, tastier and still tender and almost skinless even when picked near maturity. Alaska canned peas should command premium prices anywhere. Why advantage has not been taken of this fact for export of this special product, I'll never understand.

The rest of these questions take in a lot of territory, so if we wander considerably in trying to cover all the ground, just stagger along and we will get there eventually.

The most important prerequisite to any agricultural venture is land, and although there is a lot of country in the North little of it is suitable for farming. Most of it should in the future remain just what it is today—the best moose pasture in the world.

Considerable unpopularity has been my portion in the past because of my views along this line, and at the risk of incurring more, I still say that a lot of the land being stripped of its forest cover never should have been cleared at all. Opening up marginal or sub-marginal land isn't only a waste of money in its own right, but has a deleterious effect upon adjacent land of value.

Without waxing facetious about our "beloved country," it must be admitted that most Alaskan real estate tends to become liquid during spring breakup time. So, if this real estate happens to be where the force of gravity can affect it, it is apt to travel to new locations where it is of no use to anyone. Rule 1: Don't clear hillsides or any steep ground.

Consideration should also be given to possible effects of wind erosion. Much of Alaska has winds that can blow the hair right off a dog. In my own case, I opened up beautiful level fields of sandy loam a half mile long. The only thing that saved my bacon was the fact that the clearings lay crosswise to the prevailing winter winds. Even at that, the scouring effect of the wind upon the frozen earth was disheartening. Every downwind snowdrift in the country became colored a dirty brown. It takes a lot of topsoil to do this. Rule 2: Leave protecting windbreaks of trees to mitigate the effects of the wind. It is a good idea to defer fall plowing for the same reason.

Most old-timers can look at the forest cover and tell you what kind of soil lies beneath. A newcomer hasn't the experience to do this. To save yourself time and trouble when looking over the possibilities for settlement, take along a

crowbar as well as an axe and shovel when you set out. It's only the work of an instant to punch such a bar down through the moss and into whatever exists below. Remember, the moss will be from three inches to a foot in thickness most places, so when you find a likely looking location where you can consistently drive the bar down two feet beneath the moss without hitting obstructions, it is time to stop.

Time to Dig

Then and then only will it pay to dig a hole with a shovel to see what you have. This business with the crowbar has digging test holes with a shovel beat lots of ways, because punching a spade through all that live moss can run into a lot of hard work in a day's time, and the amount of land that can be tested by digging is limited.

Here are some rule of the thumb signs of what you are looking for. Good land grows good trees—birch, cottonwood, poplars, and heavy alders. The only thing to watch for where these conditions pertain is the presence of large boulders just under the surface. These rocks don't indicate a lack of fertility, but they can cause a stiff neck when you barge into one of them with a plow and tractor.

Kinnikinnik or Hudson Bay tea may be an acceptable substitute for tea, or as has been said takes the place of tobacco when the real article is unavailable, but as an indicator of arable land it is a total bust. About all you will find beneath this plant is sphagnum moss and trouble. So if you see a likely looking homestead property overgrown with this rusty looking plant, look elsewhere for Utopia and leave the location to the caribou for this is all it is good for; caribou pasture of the best kind.

Permafrost

Where there is much spruce, especially stunted, or "jack spruce," proceed slowly! Such land may be, and generally is, level and attractive. The funny part of it is, the soil beneath the moss is the best this earth affords, but it is useless to a would-be farmer.

Upon my homestead there was a forty acre plot of this black, rich organic mixture. Using dynamite and a lot of elbow grease, I undertook to determine its' depth and managed to dig a hole ten feet deep without finding any bottom. Tests indicate that this stuff should grow hair on a billiard ball, but you can't raise an umbrella on land like this.

The reason? It never thaws out. Ice remains just under the surface even during the hottest summer. It's simply too cold for seeds to germinate.

Don't be downhearted about this. My friend, Harry Sears, discovered a use for this material. He hauled tons of it and spread it upon his dry land like barnyard manure. What it can do for

crops when utilized in this manner is amazing. As Harry told me later, "I'm not going to sell less than forty pounds of turnips or carrots any more. They'll take the whole vegetable or nothing. I won't cut them in half for anybody." Of course, Harry stretched the truth a little but not as much as you might think.

Land in Alaska can have a number of kinds and combinations of sub-stratas all the way from sand to solid rock, but the best, to my notion, is about two feet of sandy loam over an alluvial gravel bottom. This kind of land is always well drained and warms up earliest in the spring. It will scour a rusty plow bright in twenty minutes, and it never clods. It may not be the best in the world for celery or lettuce, but it's great for everything else.

Needs Nitrogen

The old-timers used to contend that nothing could be grown on new land the first year. This belief was engendered by a lack of knowledge about soil chemistry. Newly cleared land, by necessity, contains much undecomposed organic matter, mostly moss and forest residue. Opening up this material to the sun and weather causes it to begin the process of oxidation (rotting) which process is nearly arrested as long as the land is insulated by the trees. This sudden stimulation of the oxidation process robs the soil of whatever nitrogen it possesses, so whatever is planted while this process is still taking place comes up stunted and weak and remains a sickly yellow color until the frosts finally end the agony in the fall. Sometimes these conditions pertain into the second year, depending upon the amount of organic matter in the soil. Given time enough, this forest residue makes the best compost ever invented, but it takes time.

To circumvent this seemingly unfriendly gesture by nature is easy. Simply use a chemical nitrogen fertilizer in the prescribed amounts, and presto, success is yours. At the same time this will assist nature in accelerating the business of turning rubbish into fertility, so you gain in two ways. You enrich your soil both chemically and organically.

Needs Lime

Another soil condition which can mean the difference between success and failure is the relative pH of new land. This means merely the degree of alkalinity or acidity of the soil. New land is generally highly acid in Alaska, which condition potatoes dearly love. Some other acid-sensitive crops, however, don't share this quality with the lowly spud.

A judicious application of lime will remedy the condition and if perchance the opposite happens and the soil is too alkaline, sulphur will make the balance the other way. Nowadays the Extension

Service offers free advice upon these matters.

One more minor matter should also be brought up at this time. Should you plant any legume under prescribed conditions and the crop still fails to flourish, one thing is probably to blame. You failed to use inoculated seed. Painful failure for two successive years in trying to raise peas on newly cleared land taught me this lesson, so I'll pass it along. Either buy seed that has been inoculated or, if this is impossible, borrow a little soil from a plot which has previously raised a legume to inoculate your own. All you have to do is thoroughly mix the soil with the seed and plant. Nature does the rest.

Now that we know where and how to plant, what can be raised in Alaska? It might be better to ask, what can't be grown.

Fruit trees don't make it. Frost and ground heaves damage the root system. Tomatoes, cucumbers, squash, pumpkins, and so forth can be raised only under glass. Of course, there are exceptions, but don't bank on them.

I managed popcorn into the silk stage three different seasons but never succeeded in getting any kernels. I may be mistaken, but I seem to remember Max Sherrod of Palmer raising some corn one year. If anyone could succeed, Max would, but don't count on having fresh roasting ears out of your garden. String beans generally make it if you hot-cap them and get them in early.

Such Strawberries!

Blackberries, boysenberries or loganberries don't thrive. Raspberries, gooseberries and strawberries do. In fact, you may fear that your strawberries cross-pollinated with pumpkins when you perceive their size. And the robins love strawberries in Alaska just as they do in the States. The lowly ground cherry (do you remember these when you were a kid?) does all right too, if you place it in a southern exposure, preferably next to a building or against a stump row or hill.

In most instances irrigation isn't needed or desired. For one thing, the water is too cold unless you have means to heat it and cold water can figuratively give plants goose pimples, too.

For the first year or two weeds won't be a problem but after that, look out. If your vegetables find the conditions to their liking, it is a cinch the weeds will too. The rankest pigweed and chickweed in the world grow in Alaska, and the quackgrass takes second place to none. It won't do you any good to try to keep the place clean. The weeds will show up in spite of all you can do. The birds bring the seeds in with their mating song.

Most correspondents express concern over the length, or rather the shortness, of the growing season. Don't worry about it. Barring an unseasonal frost



Howard C. Robinson

Some homesteaders have made a good thing of farming in the Matanuska, but it's no easier here than anywhere else. Success is up to the homesteader.

(they have them in Alaska, too) whatever can be grown in the North will make. The length of the days (hours of sunshine) makes up for any calendar deficiency. I've seen the native red top grass grow three inches in twenty-four hours, and twenty-eight day radishes commonly mature in twenty-one days. We've had new potatoes and peas before the fourth of July.

Everybody cusses the rainfall. It habitually comes when it is not needed, during haying season and harvest. All hay has to be cured upon stakes unless you are rich and can afford a barn dryer, and if you are rich you won't be farming in Alaska anyhow.

As for crop pests, cutworms and the old-fashioned root maggots are the worst. Most aphids and such monsters as potato bugs don't exist. Those bone-chilling days you cried about last winter put the finish to all such creatures.

No Spraying

Don't put in any orders for spraying equipment. You won't need it. Potato blight can't get along in the North. Its bosom companions, Rizoc and ring rot, do, but they aren't much of a problem.

Always included in every letter is the query, "Would you advise me to move to Alaska?" I can't advise anybody to do anything. Frankly, I'm not competent advice for myself. For what it is worth I can give a quote by Harold Dinkle when a bunch of us were discussing such problems one time. He said, "It is no easier to make a success in Alaska than anywhere else. It is up to the man."

I can and will tell you this. The commonly accepted homestead size is one hundred and sixty acres. The law specifies that a house and other improvements, including the clearing and farming of a minimal twenty acres, be completed in three and at the outside five years, in order to receive a patent for the land. In other words, like Herman

Gruenwold said, "The government bet me one hundred and sixty acres of land against years of back-breaking work that I would get faint-hearted or starve out before the time was up. It's a hard bet to win."

The only thing sure about such a venture is that it will be hard. In support of this statement is the fact that it costs two hundred dollars an acre to clear land in Alaska. That makes four thousand dollars for land clearing alone. Add to this the obvious fact that you can't farm twenty acres with a hoe and a shovel. You need a tractor and implements. As the final incentive to some serious and prolonged thinking consider that you need a lot more than twenty acres to achieve a producing, self-sustaining unit, and that a man and his family need the wherewith to keep body and soul together while he is striving for all this, and you have the answer.

Another aspect of homesteading which needs clarification is the "pay as you go" plan so many people hope to utilize. Except in rare instances it just "ain't being done." There are a number of reasons why this is so.

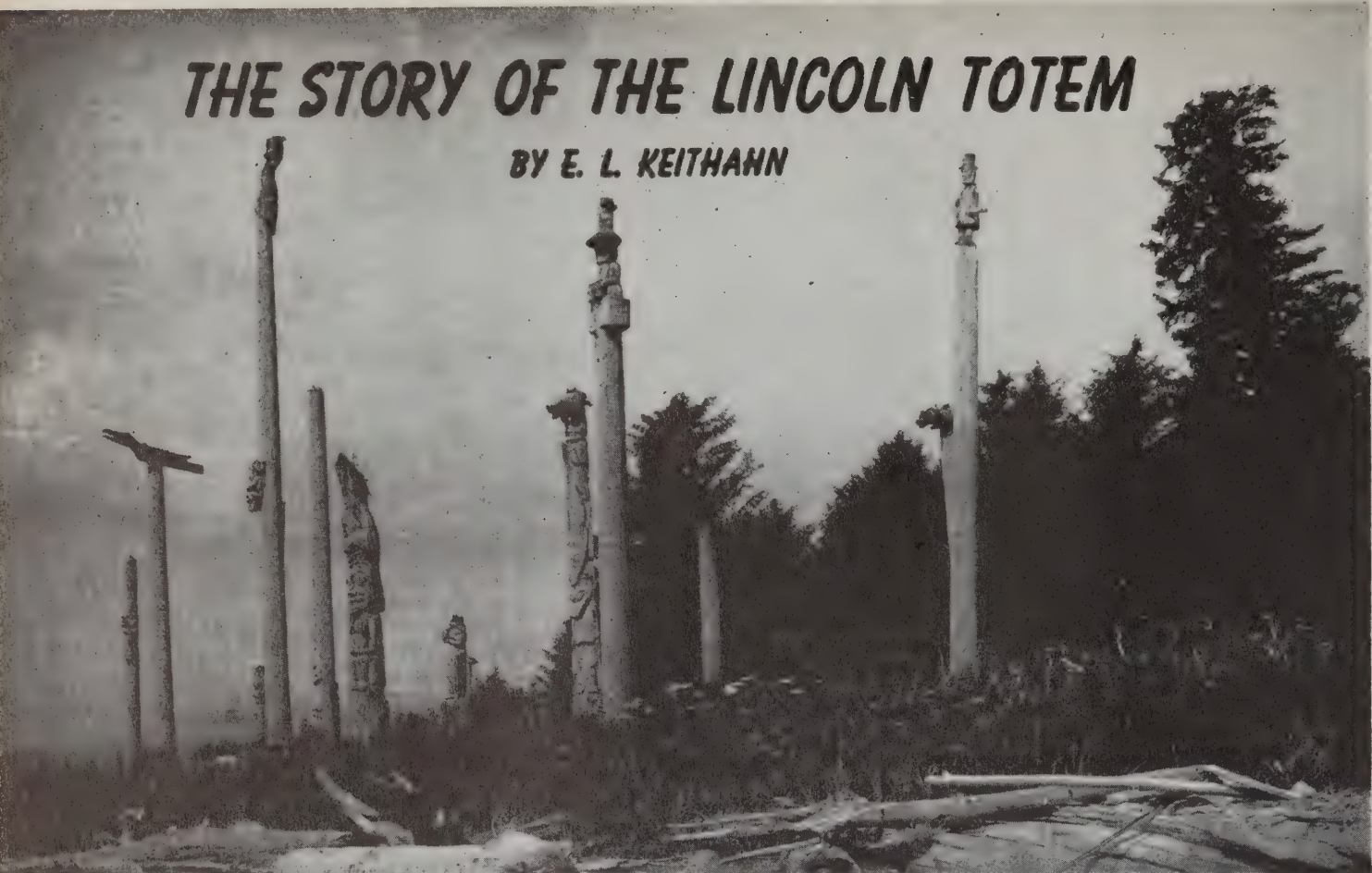
First, any homestead land worth having doesn't exist next door to a job. The "early birds" picked these places off long ago.

Second, taking up a homestead is a full time job in its own right, so don't get any notions about grabbing off some "free" land. The only "free" thing about homesteading is freedom to work more than you would if you kept the job you have now.

Thirdly, if you aren't an expert woodsman, give it a lot of thought before you take the plunge. A greenhorn hunter hires a guide to protect him from what he doesn't know. There should be guides for homesteaders, too. In fact, that is the reason for writing this article. It might save somebody's neck. The least it can do is let you know where you stand.

THE STORY OF THE LINCOLN TOTEM

BY E. L. KEITHANN



It is about seventy years since the Ganaxadi tribe erected a totem pole in honor of the Great Emancipator. Tongass Village is now a ghost town, and the few remaining monuments of the Raven people are weather-beaten and grayed with age.

ALASKA'S most interesting totem pole was erected to the memory of Abraham Lincoln. And, curiously, the Indians who carved this towering monument of red cedar to our martyred president had never lived under his paternal care; knew nothing of the lawyer and statesman; knew one thing only; that this great white chief had delivered them from slavery for all time. The Lincoln totem pole was purely a

monument to their Great Emancipator.

Lincoln did not know, perhaps, when he freed the negro slaves, that one-third of all the Indians of Southeastern Alaska were held in abject slavery by other and more powerful Indians. Yet only two years after ratification of the thirteenth amendment abolishing slavery in the United States, Alaska was purchased, and its Indian slaves came under the provisions of the article.

Socially, the Indians of the Alaska Panhandle had a most complex organization. They were divided, first, into two exogamic matrilineal phratries, headed on the one side by the Wolf (or the Eagle) totem, and on the other, by the Raven. Each of these clans was subdivided again into groups of common tradition, as, for instance, an ancient migration.

Within these divisions there was a system of caste, including classes comparable to kings, nobility, commoners, and slaves. A single large community house provided shelter for all four castes, but the inhabitants occupied places befitting their social status. The chief's quarters were made private by a large carved and painted screen, while the slaves slept on the bare floor at the entrance.

On the "Wolf" side was a powerful confederation known as the "Kok-wanton." Primarily traders and warriors, the Kok-wan-tons had representatives in nearly every village in Southeastern Alaska. As tribal symbols they chose, most appropriately, the predators of the district, such as the killer whale, the shark, or the great Brown bear, as well as the wolf and the eagle.

THE "Ravens," apparently an older group in this area, were salmon fishermen and carvers of wood. Their symbols were usually such harmless creatures as the frog, the beaver, the woodworm, and the raven.

A single large community house provided shelter for all castes in an Indian village, but the inhabitants occupied places befitting their social status. This model house built at Wrangell is a faithful replica of the ancient Indian community house. U. S. Forest Service



One band of "Ravens," known as the "Ganaxadi," had been particularly hounded by the wolf men. These people originated on the west coast of Prince of Wales Island, but they had been driven from place to place by their unrelenting foes. Their towns had been pillaged and burned, their totems destroyed, their fishermen ambushed and killed, and their wives and children carried off and made slaves.

Eventually, to save the last remnants of their band, the Ganaxadi retired to Village Island, a small, low, sandy islet in Dixon's Entrance. There they erected a palisaded fortress and prepared to make a last stand.

Although this islet had neither wood nor running water, it had one redeeming feature: it was difficult for enemies to approach unseen. But it was still in the path of the expanding, warlike Haidas, and of the neighboring Kokwan-tons, who went annually to the Nass River to render eulachon grease, the butter of the land.

About this time, the United States purchased Alaska from Russia, and Fort Tongass was established as the first port of entry, on a small island not far from where the Ganaxadi had taken refuge.

Believing that their enemies would not dare molest them under the guns of the white men's fort, the Ravens secretly abandoned their stockade on Village Island, and moved to Tongass Island. They were not to be disappointed, for the company of United States troops stationed there were friendly, and allowed them to stay. The Ganaxadi built a village which they called "Tan-gak," but it is generally referred to simply as Tongass Village.

A Customs House was established at Fort Tongass, and the revenue cutter

The figure of Lincoln has been sawed from the original pole. The hat brim and both arms were gone; lichens clung to the black frock coat, and a small spruce tree had taken root in the pocket.

U. S. Forest Service



"Lincoln" was based there to discourage smuggling and aid in settling such Indian inter-tribal hostilities as arose.

Exactly how the Ganaxadi learned of their debt to Abraham Lincoln is no longer known. They were barely established in their new home, however, when William H. Seward, in 1869, paid their old chief, Ebbetts, a special visit. Probably it was the Secretary of State himself who told them of the action of President Lincoln in abolishing slavery.

At any rate, Chief Ebbetts and his aide, sub-chief Tsa-kad, to show the appreciation of their people, ordered Thle-da, the carver, to design a monument. At the base was to be the Raven totem, and surmounting it would stand their Great Emancipator. The carver was furnished with a photograph of Lincoln in frock coat and high silk hat; and he produced a surprisingly good likeness, complete with silk hat and beard.

Incidentally, Seward was also honored by a totem pole upon which he is perched, seated upon a box which symbolizes a box of furs that Chief Ebbetts had presented him on his visit. But while Lincoln was carved realistically, Seward appears in conventionalized form, wearing a Tlinget chief's hat.

The erection of the Lincoln totem pole was a great occasion. The Ganaxadi held a great potlatch, inviting all the neighboring tribes to Tongass Village to celebrate their embarkation on a new era of peace for which Abraham Lincoln was largely responsible.

THAT was about seventy years ago; and totem poles, like the men they honor, seldom last much longer than three score years and ten. Tongass Village is now a ghost town. The fort and customs house have long since fallen in ruins.

As Ketchikan developed nearby, the customs house was moved there; and as canneries sprang up, the Raven people drifted away to places offering employment. The totem poles were left behind, and, with the exception of one purloined by Seattle business men to grace their Pioneer Square, they gradually weathered away. Photographs taken as late as 1905, however, reveal the Lincoln pole to be in good condition, for Alaska's red cedar is enduring.

Because it was off the steamer lanes, few people ever knew of the existence of the Lincoln totem pole; far fewer had ever seen it, and only a handful had recognized it for what it was. James Wickersham, Alaska's late jurist and delegate to Congress, was one of the few who were conscious of its importance and interested in its preservation.

On the occasion of President Harding's visit to Alaska, in 1923, he attempted to have the President's itinerary altered to include a visit to the historic pole, but he was unsuccessful in the attempt.

Harding had been presented with an application to reserve Tongass Island as a National Monument, and Wickersham



U. S. Forest Service
In Totem Square, at Saxman, stands an excellent replica of the Lincoln Totem, carved by descendants of the Ganaxadi tribe who made the original totem.

felt that a sight of the Lincoln totem pole there might influence him favorably. But the four-mile detour was denied, and the pole remained in obscurity.

A photograph taken in 1923 shows the left arm dangling from the shoulder. All the paint had been storm-blasted off long since; and, like a dozen others beside it, the Lincoln pole was gray, deeply etched, covered with lichens, and dry-rotting slowly away. A small spruce tree, which had taken root in Lincoln's pocket, was the only symbol of life and color.

Hope for preservation of the remains of the Lincoln totem pole came in 1937, when the U. S. Forest Service, under the able direction of Regional Forester B. Frank Heintzleman, began a program of restoration of native monuments throughout Tongass Forest, which encompasses the totem pole regions of Alaska.

Through the medium of the Civilian Conservation Corps, which was administered in Alaska by the Forest Service, Heintzleman found descendants of the Tongass people, whom he employed to duplicate the famous memorial of their ancestors. They made an excellent replica, which now stands in Totem Square at Saxman, where many other reclaimed and restored totem poles have been erected by the U. S. Forest Service.

And what of the original? Still too precious to be destroyed, Lincoln's figure sawed from its 50 foot pedestal and presented to the Territorial Museum at Juneau. There it reposes today, in a glass case, gazing solemnly and benignly down on all who pass. Both arms are gone, the high hat lacks a brim, and gray lichens cling to the black frock coat; but a school child can recognize Lincoln's strong face and distinctive beard.

the Ivory Carvers

by

Dorothy Jean Ray

ALASKAN Eskimos have been great artists for more than two thousand years, and from the vigor and beauty of their work today it is evident that they will continue to be great artists far into the future.

The world's Eskimo population reaches from East Cape, Siberia, to Greenland, a distance of three thousand miles, but it is on the shores of the narrow Bering Sea that the most magnificent Eskimo art developed and flourished. Here, where immense walrus herds migrate, the people derived an abundant life from the walrus: food, clothing, boats and ingenious implements which their men covered with exquisite designs.

Most archeological art has been unearthed in the area to the north and west of Shaktolik, which includes East Cape, Saint Lawrence, King and the Diomed Islands, Point Hope and Point Barrow.

This does not mean that the Eskimos of the lower Yukon and Kuskokwim Rivers, including Nunivak Island, were without art. On the contrary, in historic times at least, their men were artists of great capabilities though in a different tradition from that of their northern kinfolk.

Archeology has revealed great differences in art ideas and styles since the beginning of Eskimo culture, two thousand or possibly even three thousand years ago. Some of the oldest art is the most beautiful. The Okvik people, who lived about the time of Christ on Saint Lawrence Island and at Uelen, Siberia, engraved rather light-hearted, lacy ornamentation on their objects and created unusually tight-lipped female figurines.

The Old Bering Sea artists, who followed Okvik at the same places as well as at Wales and Point Barrow, conceived more complicated and sometimes almost

- Oarloranna, long-time chief of King Island, files; Samnarana uses an adze. Only men are carvers.



- An unknown Saint Lawrence Islander carved the enigmatic Okvik Madonna about the time of Christ.

Photos by Author

ponderous designs. A great number of them are elaborately stylized bird motifs with ovals representing eyes, and straight or curved decorative lines representing beaks and wings.

Following after them also on Saint



● A Punuk object, perhaps a meat fork or a wrist guard, shows an extraordinary feeling for relating design to form.

Lawrence Island were the Punuk artists (about five hundred to a thousand years ago) whose precise, spacious and almost mathematical ornamentation of straight lines and circles is decidedly different from anything preceding it.

About a thousand years ago near Point Hope there lived the Ipiutak people, whose ivory art resembled that of Okvik and Old Bering Sea, but also included unique pretzel-like designs, open-work carvings and long bird beaks with an oriental flavor.

The most recent archeological people were those of the Thule culture, whose idea of a gay decoration was a mere line or two, or a bird track design at the extremities of an object. Their culture has been found all the way from Saint Lawrence Island to Greenland, and it may be that they were too busy colonizing to make artists of themselves. Far from being artless, however, they created many flocks of flat-bottomed ivory birds to be used in the gambling game of *tingmiujaq*, and scores of ivory and wooden dolls.

In historic and contemporary times Eskimo art is divided into two general

areas, the boundary also more or less at Shaktolik, including Saint Lawrence Island with the north. Differences are apparent mainly in material and ideas, the northerners working primarily with ivory and realistic subjects, the southerners with wood and mythological themes.

But from era to era and place to place, the engraving and sculpture in ivory are characterized by the trademarks of Eskimo art: relatively small objects and a genius for design and action with an economy and sureness of line.

Eskimo Art Discovered

The art of the Alaskan Eskimos came to the attention of the world during the nineteenth century, when travelers brought back examples from both areas. With the exception, however, of a few perspicacious collectors like Edward William Nelson, a Signal Corps meteorologist who spent from June, 1877, to June, 1881, in Alaska, they gave the northern pictographs and southern mythological creatures to museums with no provenience other than "Alaska," unaware of the important regional differences.

This was also before systematic archeology began, in the 1920's, which meant that excavated pieces floated around in time as well as in space. Little has been written about the nineteenth century art, but fortunately Nelson's unrivaled collection has been noted in two publications: his own, *The Eskimo About Bering Strait* (1899), and Walter James Hoffman's *The Graphic Art of the Eskimos* (1897).

Although many other persons have tried to do so, neither Nelson nor Hoffman surmised that whalers had taught the Eskimos to engrave their forcefully realistic scenes on drill bows and hunting tallies. Captain F. W. Beechey, who discovered Point Barrow in 1826, had returned to England with one of these engraved pieces a quarter of a century before the first whalers sailed through Bering Strait, in 1854.

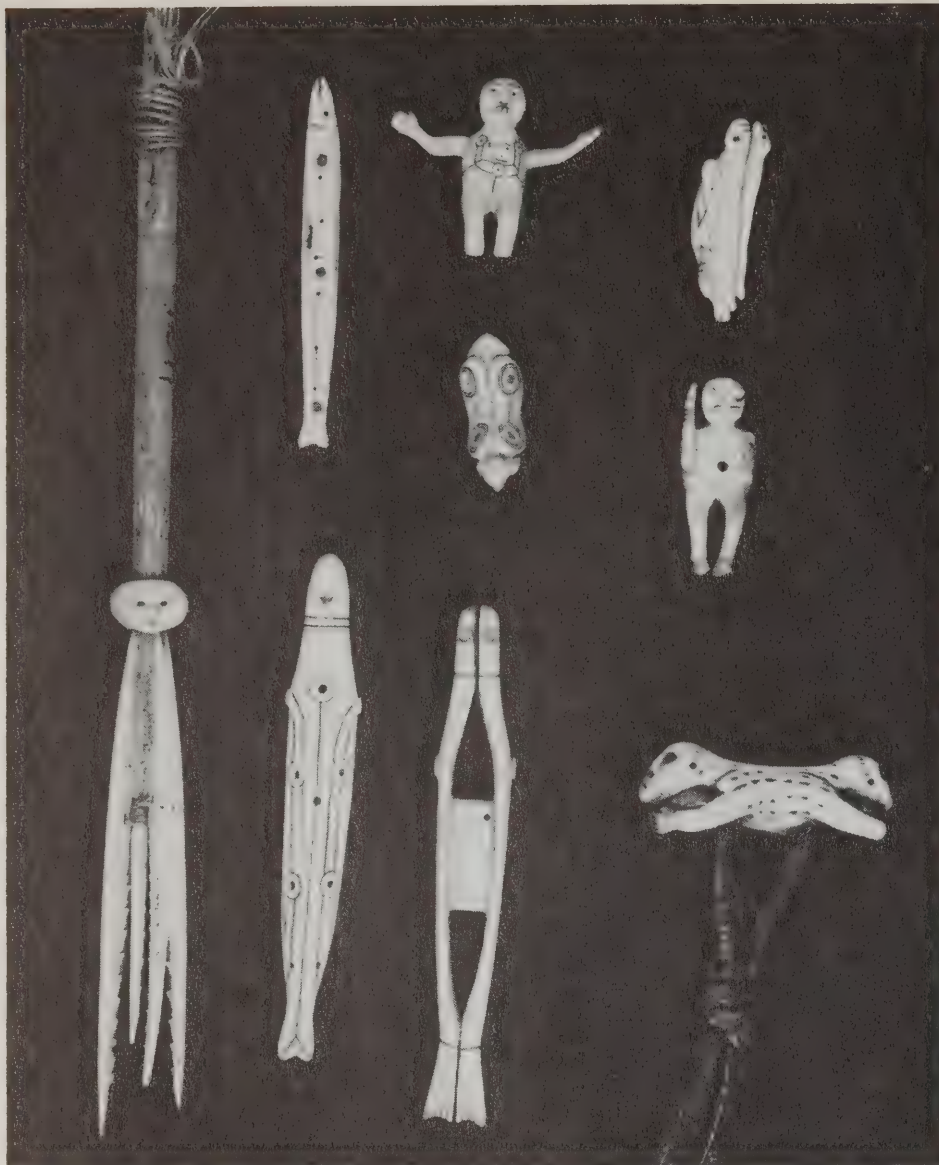
More Pictographs

Then, in 1922, Therkel Matthiassen, a Danish archeologist, excavated similar pictographs dating from about 1100 A.D. in northeastern Canada. Later Henry B. Collins Jr., of the Smithsonian Institution, unearthed others near Cape Prince of Wales which appeared to be at least two hundred years old.

Nevertheless, during the latter half of the nineteenth century the Eskimo artists did borrow extensively from the scrimshaw art of the whalers. At first they combined their old style of en-



● A recent but unknown Nunivak Island artist originated the carving of a whole tusk with intertwined animals.



● Unrestrained geometric ornamentation and a distorted sense of anatomy distinguished late nineteenth century carving in southwest Alaska.

graving with subject matter they had never seen before—the American flag, hoop-skirted women and blooming roses. But before long they abandoned both the old engraving style and the new illustrations for the cursive method of drawing and their own Eskimo scenes.

Happy Jack, the famous carver who left an indelible mark on contemporary ivory carving, incorporated scrimshaw ideas and techniques into his own mature carving style as a result of his sailing twice to San Francisco on a whaling ship in the 1890's.

Before the discovery of gold near present-day Nome, in 1898, heralded the beginning of a new chapter in northern ivory carving, the art in that vast area appeared to be fairly homogeneous. Decorative ornamentation everywhere was restrained and simple. The most common motifs were the zig-zag, the circle with a dot in the center, a Y, and straight lines.

The artists sculptured animals and human beings, and recorded their everyday lives in picture writing on bone or ivory. In both two-dimensional engraving and sculpture they interpreted their subjects naturally, and though they never approached photographic realism they attempted a faithful and undistorted recording.

But there were differences. For example, the Point Hope and Point Barrow people, and only they, used a scallop-like edge for box and bag handles and combs.

The men of King and Diomed Islands, Cape Prince of Wales and Kotzebue Sound handled the realistic engravings more adeptly than others and produced the bulk of them. The Saint Lawrence Islanders, well known for their archeological and twentieth century art, appear to have been in an artistic vacuum during that time. Their contributions were rather crude Thule-style dolls, animals and birds. Not until

the twentieth century did they engrave scenes or figures.

Although people everywhere in the north made numerous human and animal figurines, for both play and ceremonial use, production was centered on Seward Peninsula. Whale figurines, however, in both wood and ivory, were made mainly in the bowhead whale hunting areas of Point Barrow and Point Hope. There, as well as on Seward Peninsula, artists made numerous bas relief ivory and wooden animals for whaling ceremonies and decorative handles.

Masks Have Meaning

In the southwest Alaskan area, artistic endeavors traveled in a different direction. The artist appeared to view the world about him with a singular and sometimes jaundiced eye. He applied geometric ornamentation to ivory with an unrestrained hand, and carved figurines with a distorted sense of anatomy. His favorite subject matter, particularly when wood was the medium, was mythological creatures complete with x-ray views of their interiors.

His masks were complicated, symbolic, and usually fantastic. The shaman's mask represented his animal or bird spirit. Spectacle-like drawings around the eyes meant that the mask represented a seal, a mouth turned up meant the creature was male; turned down, female. Its effectiveness was increased by sticking small wooden animals or birds or parts of their bodies around the rim. These were the shaman's other helpers, who accompanied him on his spiritual journeys during hunting season. Often a hand with a hole in the palm was attached so the animal could slip through unimpeded to the hunter.

Whenever a mask had two rings of wood around it, as was especially common on Nunivak Island, one of them signified heaven, the other earth. The artists worked out hilarious color schemes with bands, polka dots and streaks, and often surrounded a mask with a riot of feathers, fur and Alaska cotton.

White Man Influence

Ivory objects were equally fanciful. The artist was evidently appalled by simplicity. He made not one line but six, not one dot but a dozen. He made numerous inlays, as did the northerners, but always in reckless profusion and of any material—grass, hair, fur, beads, rocks, wood, metal.

The carved animals had legs, flippers or heads placed in unlikely places on the body in bas relief. A circle often indicated a limb joint.

Trader influence was probably more pronounced in the southwest area than in the north at this time, although the distinctive style was completely the

Eskimos' own. Before 1880, a Russian trader at Saint Michael suggested to a carver that he make an ivory pipe like the flaring Russian pipes of wood. Here, near the border of the two general Eskimo art areas, this unknown artist combined the realistic two-dimensional engraved scenes of the north with the ornamental designs of the south to create a Russian pipe that is "typically Eskimo."

Differences were pronounced during the nineteenth century. The southwest Alaskan Eskimo style of art was concentrated in a triangular area, of which the angles were the mouths of the Yukon and Kuskokwim Rivers and Nunivak Island. Here, the artists created a greater abundance of objects and a more elaborate ornamentation than anywhere else in the southern area.

This included many unusual earrings—oblong earrings inset with well-spaced pyrites, round earrings engraved with numerous concentric circles with four "ears" placed equidistant on the circumference, earrings with little bas relief human faces—also favorite designs for wooden float plugs and box tops. They carved ivory falcon and cormorant heads similar to the Scythian bird heads of the fourth century B.C., in Asia.

New Ideas

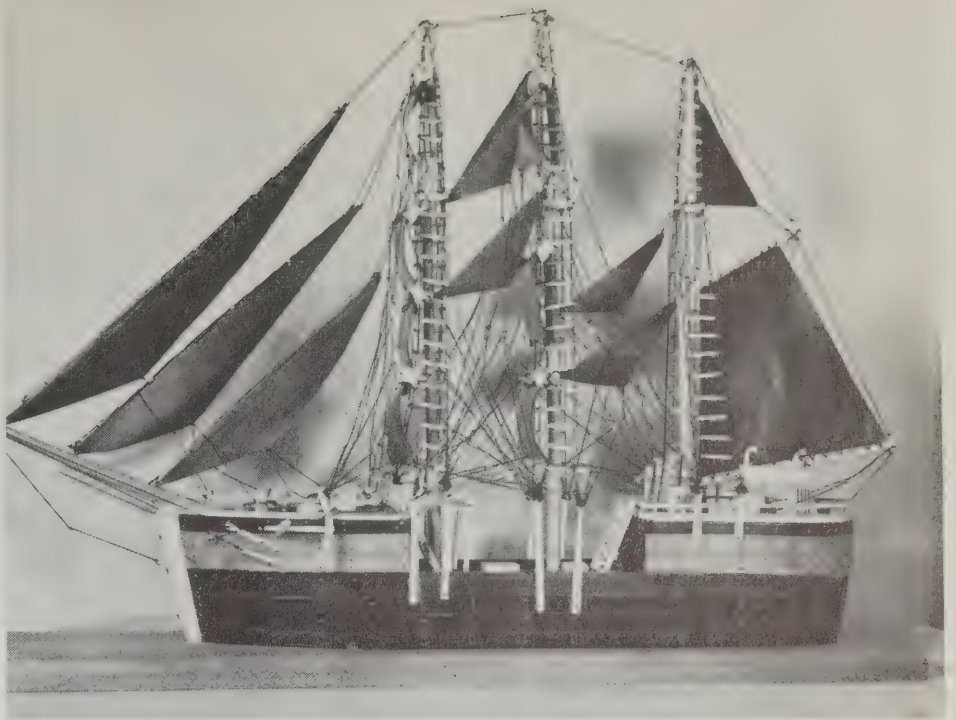
On the edge of this highly developed area at the old villages of Razbinsky and Sabotnisky, on the Yukon, the artists made big block-like human figures of ivory, plain and solid, closely related to the northern style of carving, particularly that of Saint Lawrence Island. These villagers, interestingly enough, used very little ornamentation on their objects, disclosing a relationship with the southwest Eskimos only in their masks.

In the north, the thousands of gold-miners swarming the beaches and streams around Nome gave the centuries-old ivory carving a meteoric push into the contemporary era. The nineteenth century style changed its general character abruptly. It was to be expected that the always receptive and clever Eskimos would make use of the new and different ideas reaching Alaska.

It should be kept in mind that no matter what influences were at work on Eskimo handicrafts, the result was always unmistakably Eskimo. Nothing borrowed was used without reinterpretation. Even European tools were remade, or new tools invented when needed for a new purpose.

No Isolation

The Eskimos of Bering Strait never have lived in complete isolation, as have some Indian groups, for example in South America, and archeological investigations have shown that outside



● From ivory and baleen only, a Diomedea Islander produced a ship under sail.

influences have affected their lives during every century. They in turn probably influenced others. This is the way their world developed.

Southwest Alaska carvers were not drawn into the regular stream of contemporary carving at the turn of the century, although their way of life was changing too. They almost discontinued their own ivory carving, though they did continue to make dishes and masks in their old tradition, for sale to an outside market. In recent years they have sporadically made ivory products similar in style to those of the north, but negligible in quantity compared to the production centered on Saint Lawrence Island and Nome.

Nevertheless, one unusual innovation

has emerged from Nunivak Island—the carving of whole ivory tusks with intertwined animals. Along with the enigmatic "Okvik Madonna" of two thousand years ago, found on Saint Lawrence Island but now residing in a showcase at the University of Alaska, these stand high among the best of Eskimo art.

The Nunivak carvings, made as both cribbage boards and decorative tusks, were first made by an unknown carver in the 1920's, when a quantity of ivory was imported from the north. The artist used a comma-like engraving to indicate whiskers, a device not known on Nunivak in historic times but found archeologically at Ipiutak (Point Hope) and at Cape Denbigh.

- Today's carvers draw almost exclusively upon their own environment for subject matter, but adapt borrowed ideas so successfully that, like the billiken, they pass for "something the Eskimos always made."



Ivory carving in Alaska is centered in the north today. From those first mad years of the gold rush, when the carvers were asked to make anything a souvenir-happy visitor thought of, carving as a whole has become extremely sophisticated and often stands as great art.

Carvings, whether from original or borrowed ideas, are still in the Eskimos' own inimitable style. For example, when Happy Jack was introduced to the cribbage board by whalers, he combined that foreign form with his own subjects and technique so skillfully that many persons think he invented the cribbage board!

The same is true of the billiken, an invention of a Missouri girl in 1908. It usually passes as "something the Eskimos always made," but it was first carved by Happy Jack at a shopkeeper's request.

When the carvers at Nome received the suggestion, in the 1920's, of making bracelets with elasticized thread, it was

so appealing to them that they have turned out a dizzying variety.

Carvings throughout the northern area look very much alike to the casual eye, as often happens with anonymous art, but the astute observer soon discovers individual differences. He also discovers that, as in the nineteenth century, different areas have their specialties.

Today, the Saint Lawrence carvers are noted especially for their sets of realistic birds, their human figures in action and their paper-thin filigree necklaces and bracelets.

The King Islanders and Little Diomeders, who come every summer to Nome, specialize in different commodities, although any of them could carve anything with equal facility. The King Islanders make birds too, and some of the finest ivory bears. They engrave whole walrus tusks into cribbage boards. They still make wooden masks, as do artists from Kotzebue Sound and Point Hope.

Men of Little Diomede have concentrated on the animal bracelet, with six carved links of various Arctic animals, and a variation, the dogteam bracelet, invented by Spike Milligrock of Little Diomede.

The Shishmaref carvers, a number of whom have migrated to Nome to live, have long been famous for their engraved bracelets. Now they and some of the Diomeders are making story bracelets, each link with a different scene.

Carvers are rarely asked to make foreign objects nowadays, but if so, they will do it with all their skill. They draw upon their own environment almost exclusively for subject matter—seals, walruses, bears, fishing or hunting scenes. They spend a lifetime learning the ins and outs of ivory and an interpretation of the world in which they live. The North is still an Eskimo's world, and when someone buys an ivory walrus or a bear, he carries a bit of it away with him. ▲

Those Imported Musk Oxen

by Jim Couch

Nature taught the musk oxen to face danger rather than flee. Shown below is a herd in the College pasture in semicircular defense formation, the adults shielding the young and the largest bull advancing to charge. This tactic is effective against animal predators, but the instinct to protect a fallen comrade makes all the herd easy prey to a human hunter.

Couch Alaska Archives



IT HAS been twenty-seven years since the musk ox, so-called although it has no musk glands, was re-introduced to Alaska. This animal, which provides prime steaks and the finest wool known to man, is the key to two potential industries for the Territory.

Extensive tests of musk-ox wool have been made with an eye to its commercial value. Wool samples from the Alaska experimental herd were tested by Werner Von Bergen, chief chemist for the Forstman Woolen Company. Von Bergen's tests indicated the wool to be "superior in all respects to the finest cashmere."

Mrs. Lydia Fohn-Hansen of the Agricultural Extension Service, at College, Alaska, spun several pounds of musk-ox wool while the herd was at College, and instructed student weavers who made gloves, scarves and socks of the wool. Experience proved that the socks of pure ox wool, if close-woven, were too warm even in the coldest weather. The gloves, if close-woven, were also too warm. Because of the softness of the wool, the

gloves, if loose-woven, made ideal inner liners for leather gloves or mittens. The scarves, when close-woven, were completely wind-resistant. The softer-than-cashmere texture makes ox wool ideal for persons to whom the comparative roughness of ordinary wools causes skin rashes.

With understandable pride, Irving McKay Reed, father of the musk-ox rehabilitation project in Alaska, showed me a musk-ox wool scarf which he still uses. After more than a quarter of a century of wear, the natural brown color of the wool remains constant and its texture remains invitingly soft to the touch.

Musk-ox Meat is Tasty

Experts no less illustrious than Reed, Stanley Young, noted biologist, Dr. L. J. Palmer, biologist in charge of the Alaska rehabilitation project, and the noted Arctic explorers Vilhjalmur Stefansson and the late Peter Freuchen, agree that musk-ox meat is just as tasty and fine-textured as the best top grade U.S. beef. Stefansson claims the wool to be "at least seven times more valuable than the best grade domestic sheep wool."

Without exception, every test and experiment involving meat or wool of the musk ox shows beyond doubt that development of the herd, under competent management on a domestic basis, could result in two new industries for Alaska—meat packing and weaving.

These possibilities were foremost in the mind of Irving McKay Reed in the late 1920's when, as a member of the Alaska Game Commission, he started the ball rolling and spurred Congress into appropriating forty thousand dollars to obtain an experimental herd of musk oxen from Greenland and establish and maintain it in Alaska.

Reed early attracted the interest and very powerful support of the late Senator Peter Norbeck of South Dakota and the late Representative C. C. Dickinson



Couch Alaska Archives from I. M. Reed

Musk oxen and reindeer are the only potential meat-producers capable of surviving unaided on the Arctic tundra. Musk oxen, which have no musk glands, are more desirable as they yield more meat, equal to the best beef, plus wool superior to any sheep's wool.

of Iowa, both active conservationists.

The appropriation bill was approved and signed by President Herbert Hoover on May 27, 1930. The job of obtaining the desired musk oxen and transporting them to Alaska was turned over to the Bureau of Biological Survey, ancestor to the Fish and Wildlife Service, then of the Department of Agriculture. Greenland was the only known source of surplus animals. Johannus Lund of Aalesund, Norway, was given the contract to capture and deliver the desired musk oxen.

Lund, using the good old Wild West technique of lassoing, captured thirty-four head. Each animal was placed in a crate large enough to allow it to stand or lie down. The oxen were transported from Greenland shores in whaling boats

to a larger ship which carried them to Bergen, Norway. The voyage from Bergen to New York took ten days, and in New York, in accordance with Federal regulations, the animals were kept in quarantine for thirty-three days.

Still in their individual crates, the oxen next endured a five-day rail trip across the United States to Seattle, then a seven-day boat trip to Seward. From Seward they made the final two-day trip to College, just out of Fairbanks, by way of the Alaska Railroad.

The herd arrived in College on November 4, 1930, ending sixty days of existence in crates, including thirty-three days in quarantine, without the loss or serious injury of a single animal.

Concerning the presence of musk

Mickey, below, the youngest bull in the transplanted herd, enjoyed human society and would allow himself to be petted and photographed. The late Jack W. Warwick, at right, chief assistant to Dr. J. L. Palmer, generally had Mickey at his heels like a puppy as he worked about the pasture, the "wild" beast at times nuzzling Warwick affectionately.

Couch Alaska Archives from I. M. Reed



glands indicated by the animal's common name, Reed, whose work with the musk ox gave him an opportunity to find out, says there are none. The ox habitually rubs its forelegs with its head and neck when disturbed, Reed says, but no musk odor results. Reed and others familiar with the animal are convinced that its misnomer came about through one of those understandable errors in judgment. Reed believes the name was first applied by British adventurers hunting meat in northern Canada and ignoring the fact that they were killing bulls in the rut. All game meat from the male animal has an unpleasant musky odor when killed during the rutting season. At other times, musk-oxen meat is as odorless as prime beef butchered commercially.

An interesting observation on the name of the animal and the quality of its meat is found in the following excerpt from a letter written in 1929 by Reed to Representative Dickinson:

Superior Flavor

"The flesh of the musk oxen was asserted by Admiral Peary to be superior in flavor and texture to beef. Others, such as Stefansson, claim there is no distinction in flavor between the two meats. All, however, agree that the fat of the musk oxen has much the better taste. There is not the slightest taste or smell of muskiness in the meat of the animals. In the rutting season, however, the flesh of the old bulls, like that of most animals, becomes strong. But it is no worse than caribou, reindeer, mountain sheep, elk and so forth, under the same circumstances. In fact, the name of the animal should be in English a direct translation of the word *ovibus* in Latin: sheep-ox. A great deal of false prejudice against the animal would then be immediately done away with."

General A. W. Greely records experiments and concludes that "immediate dressing of the animal obviates the difficulty [that is, any objectionable odor]."

Additional interesting facts about the musk oxen come from Reed's observations of the Alaska experimental herd:

"The musk ox is placed biologically between the sheep and the bison. The characteristics are mostly, however, nearer to the sheep. The height at the shoulders is about four and a half feet and the total length of the animal is a little more than seven and a half feet. The live weight of a fully grown bull is, at a maximum, about nine hundred pounds, cows being about a hundred and fifty pounds lighter. The dressed carcass will average about two-thirds of the live weight. . . . The tail is practically nonexistent, being only one and one-half to two inches long. . . . The hooves are large and widespreading, even more so than the hooves of the reindeer, so the animal can travel in snow in winter and over marshy ground in summer with great ease.

"The horns in the mature bulls spread across the top of the head in a solid mass

(boss), curve down along the side of the head and then hook upward in needle-like points, making very efficient weapons. The horns of the cow are shaped like those of the bull but are more slender and do not meet in a solid boss over the head but have a dividing line between, through which the hair grows."

Handling the musk ox is not one of the problems of domestication, according to Reed's findings. He cites his experience with the College herd on this point: "At the experiment station, the bulls became gentle from constant handling from the time they were calves. . . . The cows, though tamer than range cows, not being handled so continuously as the bulls, had more tendency to charge, especially when accompanied by calves. Some of the bulls seem to prefer the company of human beings to their own kind, and would leave the herd to graze near spectators.

Young Bull Tame

"One bull became especially tame. He was the youngest of the original herd from Greenland and was much petted by Palmer's assistant, Jack Warwick, who named him Mickey. Even as an adult bull, Mickey followed Warwick everywhere through the pasture, nuzzled him at times and allowed himself to be petted and much photographed. Mickey was killed by the natives on Nunivak Island because he persisted in grazing in or near the village," Reed concluded.

Mickey's extermination because of human ignorance and misunderstanding is typical of the general mishandling of the experimental herd on Nunivak, which had almost eliminated it by 1946, until Reed's interest brought about an investigation that seems to have stopped the wasteful slaughter.

Musk oxen were native to Arctic Alaska until about 1870, a few years after the coastal Eskimos obtained their first rifles from whalers and learned to use them efficiently. Through countless centuries of survival on the most difficult grazing area in the world, Arctic tundra, nature had been on the side of the oxen. She had provided them with a thick undercoat of dense wool and a coarse protective overcoat of long guard hairs. The combination protected the oxen from the elements, and made it that much more difficult for predators, such as wolves, to inflict serious damage.

Protective Tactic Suicidal

Nature also had taught the musk oxen a protective battle tactic, a generally circular formation of adult bulls and cows, with the calves behind them. In this manner the herd presented an impenetrable front to the enemy. This tactic was remarkably effective against wolves and bears, the only persistent natural predators, but it proved suicidal in the face of the nineteenth century menace, the white man's rifle. The defensive circle, or square, or bunching, which made it almost impossible for the

wolf to reach the vulnerable sections of the oxen, presented the entire herd as a fish-in-a-barrel target for the Eskimos' new "fire stick."

The musk-ox herds of the Alaskan Arctic and sub-Arctic were slaughtered to extinction in less than ten years after the whalers began, in about 1860, issuing rifles to the Eskimos in payment for furs and work. Musk-ox wool and hides were put to many utilitarian uses, and for an all-too-brief span the heads became prime trophies among the big game set. Arctic whaling crews and coastal Eskimos killed many oxen for food and clothing. Then, too, for a time, obtaining musk-ox calves for zoos became quite a fad. The brave big-game hunters finally figured out that they would have much less trouble and far fewer bruises if they killed off the mature, protecting bulls and cows before they collected the calves.

This was collecting made arm-chair easy, but it resulted in the wasteful slaughter of hundreds of mature animals whose only offense against man was a normal, instinctive desire to protect their young.

Perhaps the most graphic description of the musk-oxen defense formation on record is that of Peter Freuchen in his *Arctic Adventure*: "We were met with a reception committee of twelve musk oxen. Like soldiers they were organized in a square, their horns pointed outward. Musk oxen have learned thus to organize against the wolves, but it would have been better for them to run from our guns. . . . But pursuing the tactics they do, the hunter must kill the whole group. I have tried at different times to kill only one of a group, or as many as I needed, but it is impossible to do this. The others always remain to protect the fallen. No matter how long one waits to approach the carcass, the live animals will never stray far and will return instantly to surround and defend their dead companion."

Unswerving Vigil

In this connection I find myself wondering about a possible relationship between the musk oxen and the American bison (buffalo) now thriving on the Delta River flats of central Alaska. I have stalked and photographed bison maintaining a death watch over a fallen comrade. Nothing I could think of by way of distraction or irritation could induce the surviving bison to give up their vigil. I found I could approach within thirty feet of a dead bison, but always with at least one very much alive and obviously irritated bison between me and the departed.

Interesting highlights in the circumstances which led up to and followed the practical extinction of the musk oxen in Alaska are found in recorded observations of two pioneer Alaskans, Charles D. Brower, founder of Barrow, and Henry Appelle, veteran Fairbanks prospector, dog musher and hunter.

In a report in May, 1911, to the New York Zoological Society, Brower noted: "When I first went there [Point Barrow] in 1884, there was still alive an old Eskimo who had killed musk oxen with a bow and arrow. The man's name was Mungelo and he was a native of Cape Smythe village. Mungelo and his father killed several musk oxen about nine miles south of the Barrow village site, at Omingmiuk (Musk Ox) Creek, and gave the meat to families that were in danger of starving because there was a poor seal crop."

Brower later found a musk-ox skull associated with mammoth and mastodon remains near Barrow. The skull looked fresh and apparently had not been weathering for more than thirty years. In all probability the skull belonged to one of the last musk oxen killed in Arctic Alaska, about 1865 or certainly no later than 1870.

Indians seem to have exterminated the last small herd of musk oxen that migrated west into eastern Alaska from the northern reaches of Yukon Territory. This bit of history came to the attention of Henry Appelle, who later described it to Reed and others:

"Bear With Horns"

In late January, 1895, Appelle was traveling with a passenger by dog team between Circle and Eagle on the Yukon River. He stopped overnight with an old Indian and his wife, who were camped near the north bank of the Yukon at

the mouth of Charlie Creek (Kandik River). The old Indian took Appelle to his cache to show him the head and skin of a "bear with horns," which he had killed a month or so before, a few miles up the Kandik River. What the Indian showed Appelle were the head and skin of a young bull musk ox, an animal with which Appelle had become familiar on the lower McKenzie River a year or so previously. This animal, according to Appelle, was undoubtedly the only one to escape when the Chandalar Indians slaughtered the last known herd to migrate from Yukon Territory in 1893, and it had wandered about a hundred and fifty miles southeast to the Kandik River.

The musk oxen brought from Greenland in 1930 were released in a 7,500-acre pasture which was part of the Biological Survey's reindeer experimental range at College, Alaska. Two bulls died of injuries inflicted upon each other in a pasture battle during the first year. In 1932, bears invaded the pasture and killed two more animals. Calving among the transplanted cows began in April, 1934. Seven of the nine five-year-old cows then in the herd gave birth to single calves.

Multiple Births Unknown

It was determined that the cows do not breed until they are four years old, and that the calf is delivered after an eight-month gestation period. Musk-ox cows never have been known to experience multiple births.

After five years of many experiments

with the animals and their wool and meat at College, two adult bulls and two adult cows were transferred to the Government range on Nunivak Island, in the Bering Sea. These pioneers did so well that in 1936 the entire College herd, then numbering thirty-one head, was transferred to Nunivak. Experiment Farm records preserved by Reed show that during their time at College, 1930 through 1935, the herd experienced twenty-five deaths and twenty-two births. Reed's records also show that in 1936 there were no births, as "All cows aborted calves because of improper feeding, an inexperienced man having been left in charge during the time other members of the staff [that is, Palmer and Warwick] were called to Washington, D.C."

The transfer of the herd to Nunivak was by rail from College to Nenana, and by river boat and barge to Saint Michael at the mouth of the Yukon River. From Saint Michael they were transported in crates on an open barge, towed by a motor ship.

In a report to the Smithsonian Institution, Stanley P. Young, then senior biologist for the Fish and Wildlife Service, describes the leaking of the "ancient" barge as it took a terrific pounding in the rough seas on its way to Nunivak. Only by beaching at Sand Island and making repairs to the barge was the crew able to complete the journey safely. As Young points out, with an understandable shudder, "Rough seas in



Couch Alaska Archives

Shown above are two bulls and two cows in characteristic defense formation. Adult animals had to be shot before calves were captured.

the last few miles of a fourteen-thousand-mile journey, from Greenland to Nunivak Island, could have ruined six years of hard work and put a disastrous end to one of the most unusual experiments in the entire history of game management."

A 1939 survey, noted by Young, showed that the musk-ox herd had increased to sixty head.

Despite all odds, including movement of the herd to Nunivak and near shipwreck in the Bering Sea, the musk-oxen experiment progressed with remarkable success until the mid-1940's, when apparent mismanagement, or a temporary lack of management, resulted in wholesale slaughter by Eskimo hunters.

In the summer of 1946, two survey parties made aerial counts of the Nunivak herd. By coincidence, both parties reported seeing only fourteen head. The first survey party included Clarence Rhode, now director of the Fish and Wildlife Service in Alaska, Frank Glasser, now retired, and Jack O'Connor, then game management supervisor of the Fish and Wildlife Service. The second party included A. D. Edgar, then agricultural engineer for the Department of Agriculture, D. A. Savage, then with the Bureau of Plant Industry, and I. M. C. Anderson, then Federal Farm Security Administrator. This second survey party broke its count down to eleven adult animals and three calves.

At the same time, musk-ox hides were appearing with astonishing regularity on the market in Nome.

Alarmed by the reported herd count by two aerial survey parties, both made up of men whose competence is beyond question, Reed contacted authorities and was advised that there were 147 musk oxen on Nunivak. Reed got no explanation of the discrepancy between

the aerial counts and the announced figure of 147 head, nor of the source of musk-ox hides appearing in Nome.

According to the latest herd count, reported in a news release by the Fish and Wildlife Service dated August 1, 1957, there are now 143 head.

Reed wonders, as who wouldn't, how the Nunivak herd could have increased from thirty-two head in 1936 to sixty head in 1939, a figure apparently accepted by all concerned, to a reported but apparently unverified 147 head in 1946, then decreased to 143 head by 1957.

As Reed notes, the Nunivak herd practically doubled in the three years between 1936 and 1939, and more than quadrupled in the seven-year span from 1939 to 1946, if the 1946 count reported to Reed is to be accepted without question. Then, in the next eleven years, the herd lost ground—on a grazing range free from predators and consistently abundant in acceptable feed. The oxen and reindeer herds have never been crowded on the seventy-by-fifty-mile range of Nunivak Island.

The observer is tempted to suspect that the inconsistency lies hidden within the circumstances of the two fourteen-head counts in 1946 and the appearance of musk-ox hides in Nome in 1946 and 1947.

A Promising Industry

Be all that as it may, the fact remains that Alaska has a herd of 143 musk oxen. The ability of these animals to thrive and multiply on range available in Alaska, as proved by the undisputed 1936-1939 figures, plus the proven quality of their wool and meat, leave no reasonable doubt. Under competent herd management—preferably non-Government and non-native—the musk oxen can certainly be the nucleus of at least

two of the industries which Alaska must develop in the near future to provide much-needed employment for a constantly increasing population, especially in the central and western areas.

Perhaps the most convincing arguments for renewed efforts by responsible parties to develop industries around the musk-ox herd were advanced by Reed himself. On December 4, 1950, Reed wrote to Dr. Terris Moore, then president of the University of Alaska, urging that efforts, instituted a few years earlier, be renewed to have some of the Nunivak herd returned to the experiment station at College for further study.

Reed concludes: "As you may know, there are in the Alaskan Arctic roughly twenty million acres . . . on which musk-oxen could be raised. . . . Due to slowly constricting ranges, North America's stock of domestic animals yielding meat and wool is growing steadily less (as reflected in rising consumer costs). If the vast Arctic wastelands could be utilized for the purpose of raising meat and wool, a great benefit would be done, not only to our over-all national economy, but also toward providing Alaska a permanent basic industry so badly needed if an enduring American civilization is to be built here.

"There are in the world today only two herbivorous (or meat supplying) animals which can be raised without feeding or housing on these Arctic ranges—reindeer and musk oxen. Of the two, musk oxen would be by far the most useful . . . as they are larger, stronger animals whose meat is equal if not superior to grass-fed beef, besides producing a wool equal to the finest camel's wool, with insulating qualities and lightness equal to eiderdown, and valued at five to seven times the price of sheep wool."



A three-year-old bull moose observed at a distance by the photographer, an advocate of camera hunting.—W. E. (Andy) Anderson



TOTEM POLES



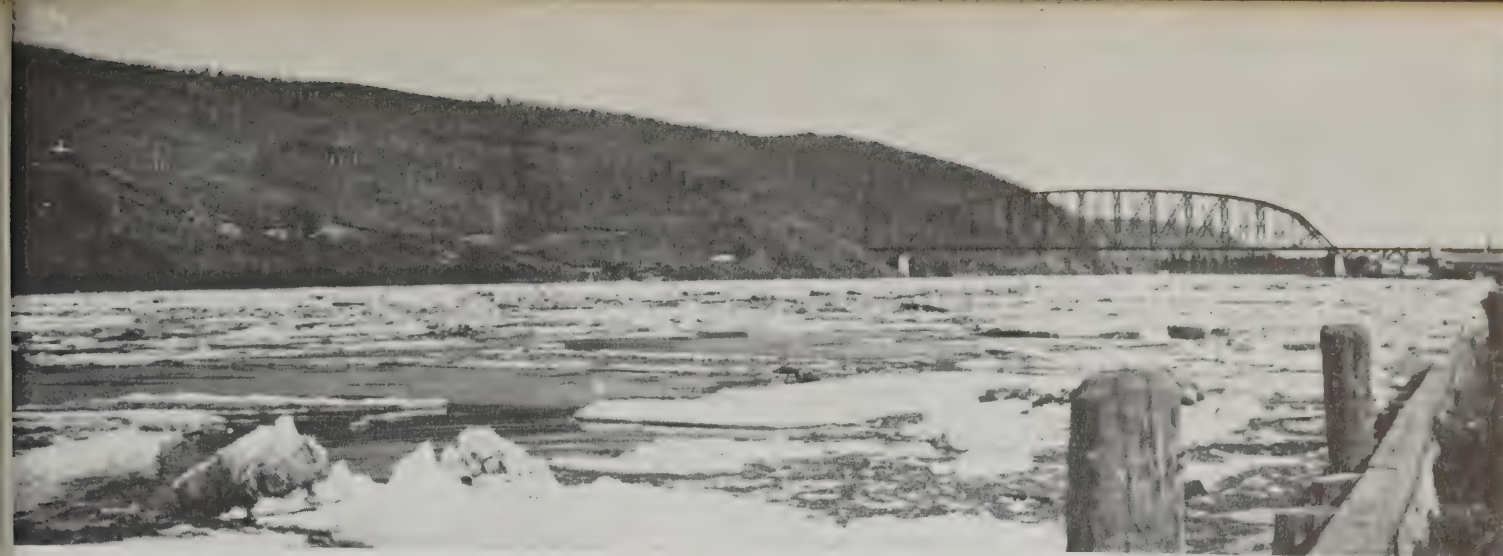
tall straight cedars

With sharp stone axe and broken shell,
With fire carefully tended
On cedar trunks we carved our signs
Where fable and fact were blended.

These are the symbols and painted masks,
The Tale of our wandering people,
The history of our clans and race,
Our textbook, our sign board, our steeple!

Now white men, too, raise totem poles—
Cross-barred, with bright wire taking
A flood of power to the stirring North—
Their history now is making!

John C. Frohlicher



After the break-up of the ice in the late spring, the Tanana is a mass of floating ice. Before the bridge was built, tracks were laid across the ice soon as the river had frozen, and the trains ran across this temporary roadway until a break-up threatened.

NENANA ON THE TANANA BY CHURCHILL FISHER

NENANA on the Tanana! For years I had planned to visit that little village, famous all over the Territory, and even the continent, as the home of the classic Alaska Ice Pool. To be sure, I was making my pilgrimage just before Christmas, when the ice and the snow and the sub-zero weather seemed to congeal the very marrow in my bones, and made me wonder if the ice could ever really melt in such a country.

It was about five o'clock when the little train on The Alaska Railroad puffed around the last bend, and the lights of Nenana thrust sharply into the utter blackness of the early winter night. Apparently nearly all the village's three hundred souls, mostly natives, had turned out to meet the train. As I alighted, a small woman with big hazel eyes detached herself from the crowd and came to greet me. She had been notified by phone of my coming, and had been kind enough to brave the cold and welcome me. She would see me to "Stella's," the only lodging place in the village.

Did I, she wondered, know anything of the exigencies of the matter of lodgings? Stella, on being approached about taking me in, had demanded that I be a "good Alaskan." That meant that I must endure with fortitude and hardihood what there was to endure. Such implications challenged me, and I resolved that come what might, I would be "a good Alaskan." As I followed my guide down the long, dark street, I tried hard to make myself believe that I wel-

comed the penetrating cold that nipped my toes and made my eyes smart. My flashlight made a feeble ray in the darkness, and eventually disclosed a large log structure with the words "Stella's Lodgings" in huge letters upon the side.

A double door led into a large room with a monstrous "drum" stove. Stella, a short, stocky person of late middle age arose to greet us. She was still dubious about taking me in, even though my companion asserted my desirable qualities. As I was reluctantly shown a small room partitioned off the large one, Stella kept protesting that her accommodations were never meant for womankind; and in my heart I began to wonder if I had, indeed, over-rated myself.

The single bed was equipped with cotton sheets and comforters. The stove seemed a long way off, and its heat came scantily through the narrow curtain-hung door. One's nose began to chill. The only thing to do was to sit in the neighborhood of the stove. A tall gentleman who, from his appearance, might have been a senator, vacated the

wooden rocker in my favor. I sat down and began to look around.

Beside the heater a small Yukon stove coaxed a tea-kettle to hum. On a long bench near the door of my room was a pail of water with a dipper, a large wash basin, and soap and towels. Primitive, indeed, although I had read that since the coming of The Railroad and the white people in 1916, Nenana was a modern town.

Brown paper of a long since faded design covered the walls. For furniture there were wooden arm chairs, trunks, and a table piled high with magazines. A big clock ticked loudly and struck the hours. Everything was in order, and seemed waiting for the stream of miners, prospectors, and trappers who had come this way in past years, or the engineers and road gangs who had used the room during the construction of The Railroad.

The tall old gentleman on the other side of the stove was reading a magazine. He had upstanding gray hair, keen blue eyes, and something like a dimple in one cheek. He was neatly dressed in warm, new, wool clothes.

Soon we were chatting, and he told me that he was Henry Knight, a trapper and miner, who at present was freighting up the Kantishna. He had been in the Territory since '98. A rapid mental calculation placed his residence at forty-four years. My heavens! Forty-four winters of enduring weather sometimes seventy below zero, and he was still going strong as ever.

An intricate system of wires, poles, levers, and a clock are set up to determine the exact instant of the break-up, and a guard is on watch.



"Nenana is going to be interesting," I exclaimed.

He looked at me half humorously, and asked, "In what way?" This made me reflect on what the life of a trapper, of a freighter, must be like—long treks behind the dogs over endless trails on snow-covered tundra, then long evenings in such rooms as this, looking over old magazines; days in a wilderness cabin and meals of bacon and beans or broiled steaks of game meat, and a blizzard howling its fury outside.

And, speaking of blizzards, the temperature here must be dropping. Here I was with my legs scorching and my shoulders numb, and my nose growing colder and colder!

Mr. Knight observed that the restaurant would close at six. I glanced at the clock. It was five-thirty, so I started hastily for dinner. The cafe was a warm little room with a counter at one side. In the end of the room a group of Indians hovered. "Connie," the young



I had read that since the coming of The Railroad and the white people in 1916, Nenana was a modern town. Everything seemed waiting for the streams of miners, prospectors, and trappers who had come this way in past years, but now were gone.

sink all their money into tickets, and plan grand things with the returns they expect. For these people the disappointment of losing is great, and weeks of black dejection follow the blasting of their rosy dreams. But next year they

with the movement of the ice, and the clock stops.

A hole is cut in the ice, and a twenty-five-foot pole is driven into the hole, while a tripod arrangement of other poles keeps the center one in place. A red flag floats from the top of the pole, and just below is a sign, "The Nenana Ice Pool." A wire fastened to the end of the pole is extended over a derrick on the wharf by means of a pulley, and pulled taut by a weight attached to the loose end. A string is tied to a small lever on a Seth Thomas eight-day clock. This string is attached to the top of the derrick, and to the wire that extends to the pole in the ice.

When the whole mass of ice begins to move in the spring, it carries the pole down with it until the wire is stretched to its limit, and the string tied to the clock snaps. This causes the lever to stop the clock and the second marked at the stop is the official time of the break.

The ice usually moves about a hundred feet before it actually breaks the string. Sometimes it moves a few feet and stays in that position for days before it is entirely free. When this happens, the excitement grows intense. People gather and keep constant watch, and make various wagers as to the time the clock will finally stop. There are many breathless moments, when people pray that the big break-up will come on the precise minute of their guess.

They say the final break-up is a spectacle worth traveling miles to see. Immense cakes of ice shoot into the air, then settle back block on block. Some submerge, and others roll over and over like logs. The whole river becomes a mass of churn-



The railroad bridge span at Nenana is the longest west of the Mississippi. The train starts south from Fairbanks, but goes through a pass in the mountains which brings it out south of Nenana. It turns north, and then loops around the bridge.

cook, prepared a chop, served canned tomatoes, fried potatoes, and a hot roll.

Soon Sid, the Old-timer and proprietor, came in and began to talk to me. The Indians, curious to hear what was said, sidled up, but Sid waved them back. As he related anecdotes of early days, his remarks were interrupted continually by commands to the Indians to "go back and sit down," with an outstretched hand and pointing finger for emphasis.

Sid, black-haired and lean, humorous and vivacious for all his seventy-two years, told me of the first ice-pool back in 1917. That purse was but five-hundred dollars—a contrast to the one-hundred thousand of 1939.

The Ice Pool at Nenana is the Irish Sweepstakes of the Northland. For a few weeks each spring, hundreds of persons in the Territory live in a Fool's Paradise. Although many do, without doubt, buy tickets to the Ice Pool just for fun, others really hope to win. They

follow the same will-o-the-wisp.

Perhaps no other institution is so typically Alaskan as the annual Nenana Sweepstakes, when thousands attempt to guess the exact day and minute, and even the second, of the ice break-up on the Nenana River. Sid told me of the point in the middle of the river where an elaborate system of wires is attached to a bell and clock. The wire breaks

The Railroad operates steamers from Nenana to places up and down the rivers.



ing, grinding, bubbling ice, scraping together with a roar that can be heard for miles.

Charles Nelson, an Alaska Railroad employee, has been for years in full charge of the clock. He attaches it about the middle of April, and climbs to the top of the pole each eight days to wind it. A guard is on constant watch from a shelter at the edge of the water, so that the decision of the clock will be "straight." When it looks as if the big moment is approaching, more sentinels are put to guarding the mechanism.

When the final break comes, thirty-five employees are busy at Pioneer Hall sending telegrams to newspapers and fortunate people.

EVERY conceivable method of prognosticating the date has been tried—exact science, astrology, numerology, and just plain guess-work. One year a group of engineers made minute calculations of the ice measurements in other rivers of the vicinity, the temperatures of the melting ice, the depths of streams, etcetera, and then applied their findings to the Tanana. In this way they thought they could determine the exact breaking date, so they placed one thousand dollars on every second and minute around that date. They missed by four days. An astrologer placed a guess on each minute of the day the stars decreed and missed by one day; and Mervin Anderson, a Fairbanks bus-driver, won the entire sweepstakes with a hit-or-miss one-dollar guess.

Records show that 3:27 p. m. on April 20, 1940, was the earliest known opening, and that 1:32 p. m. of May 15, 1935, was the latest known. Four times the ice has gone out on May 11, and four times on April 30. The time of day ranges from 5:42 a. m. to 8:14 p. m. More than half the breaks have been between 9:30 a. m. and 8 p. m.

The size of the pool depends on the number of tickets sold, and has ranged from \$500 in 1917 to \$100,000 in 1939. Last year, 1942, the sales amounted to about \$100,000 but approximately \$10,000 in expenses cut it down to \$90,000. The tickets are sold prominently everywhere in the Territory, but they must be sent by Express, since the postal laws forbid the mailing of anything in the nature of lottery. No guesses are accepted from the States for they would violate inter-State laws.

When several persons guess the winning time, the money is divided equally among them. For instance, last year six persons won about \$15,000 each. Some of these names, however, represented "companies," or several persons who had agreed that should one of their number win the pool, they should divide the money.

In 1940, Clara Hansen, an Anchorage stenographer, was entertaining at a dinner party when she was notified by phone that she had won half of \$80,000. She had mentioned to her guests that she had placed her bet, but no one had considered it of much importance until she burst out into excited exclamations over the telephone. She and Lila Palm had gone together on a lucky number that had won for Mrs. Palm at a baseball pool in Washington, D. C., some years before; and it had been lucky again.

Just think, \$90,000 just on a one-dollar ticket! What could be more thrilling? I found myself dreaming of mink coats and travel, and much more than ten percent in war bonds. That is the spirit of many who buy tickets. Each thinks he may be the lucky one, and lives in suspense until the break is final.

And so, away from Sid and the cafe, out in the streets of Nenana, the famous Ice Pool City, the cold seemed to have a new significance.

A mere fur coat and wool hose, shoes and overshoes were no garb for this climate.

In my chilly room even a blanket from my bag didn't make my bed very snug. After perhaps two hours of sleep my limbs ached from cold, and I doubted more and more my hardihood. As the down-side aches more, one simply turns over, sleeps until the pain in that side rouses one, then turns over again.

A rattling of the stove in the big room announced the morning. One somehow scrambles into clothes, and makes cold cream and powder do the work of soap and water for her complexion.

THIS time Connie served "sour-dough hotcakes, not pancakes," and he assured me that they were the bona fide article, made from "ever-lasting dough." They were a delectable brown, and tender and delicious. But even after the hotcakes, I inquired for the next train south. A freight, they said, was scheduled to go through at noon.

Stella appeared relieved that I intended to leave; but Mr. Knight, who heard me say I had not brought clothing warm enough for such a climate, suggested, "There's plenty of clothes in the store!"

And, indeed, there were. I had seen them hanging there—lovely fur parkas and trousers and mukluks. I had eyed with envy such clothing on the people I passed in the streets. Such costumes are not only comfortable and proof against the penetrating cold, but they are also beautiful and becoming. Now, if I should only win the ice pool—but one could not afford such purchases for a short time in the Interior!

At eleven o'clock the sun came out gloriously, his big, round face hang-

ing just at the tree-tops and peeping through the branches. The slanting rays glorified the hill opposite the depot with a rose-mauve light. From the scattered houses smoke rose high and white, as if from volcanic fires, then caught the rays of the sun and took on faint shades of carmen and heliotrope, and the frosted trees reflected tints of clear, delicate pink.

Connie had insisted on carrying my bag from the lunch room to the depot. It worried me that he should dash away from the hot stove into the sub-zero cold clad only in his white-cotton chef's clothes.

From the depot window one sees the great steel bridge, longest railroad bridge span west of the Mississippi, on which The Railroad crosses the Tanana. Before this bridge was built, tracks were laid across the ice as soon as the river had frozen, and across this temporary roadway the trains ran until a break-up threatened in the spring. The Railroad operates steamers from this point to places up and down the Yukon and Tanana rivers. These waters, now locked in stillness, would sleep long before spring's warmth stirred them into the activity that has made Nenana famous.

THE low-hanging sun poured warmth into the depot. There was the far-off whistle of the train! Looking out the window I saw, on the other side of the river, the train which should have been south-bound. It was going north! My heart sank. So there had been a mistake, and there was no south-bound train, after all! I might be marooned here for—goodness knows how long!

I had expressed myself aloud, and the Station Agent began to laugh. "Don't worry," he comforted me, "the train starts south from Fairbanks, but it goes through a pass in the mountains which brings it out south of Nenana. It turns north, then loops around the bridge."

In due time the engine did, indeed, pull up to the station, puffing and snorting as though the frigid air stung its mighty metal lungs. The coach was chilly, and from time to time the trainman came in to poke the fire in the big stove, which was toward the rear of the car.

Again the flat wilderness of snow and dwarf trees and brown bushes. The friendly conductor wanted to know if I had found Nenana cold, and I shivered an affirmative answer. As we rolled along over the snow-covered tundra, the five o'clock darkness settled down to blot out the chill white vistas. Weary from my cramped-up night on cotton blankets, I huddled into the stiff-straight seat. As I dozed, the rumble of the wheels became the roar of breaking ice, interspersed with visions of \$90,000 and a mink coat.



Out on the Commodore everything was wild confusion. Two entire crews stood idle while their captains cursed the delay. Another day or two and the famous old schooner, relic of a bygone age, would be towed to the beach and abandoned.

LAST OF THE TALL SHIPS

BY LEON VINCENT

Hundreds of sailing vessels—whalers, cod-fishers, exploring and trading ships—once sailed Alaskan waters, but the passing of the sail was swift and complete. Today many a sea-port dweller has never seen a tall, graceful ship under canvas.

HAVE you ever wished you might have been born a few years earlier, so you could have planted your feet firmly on a sloping wooden deck beneath a towering pyramid of creamy canvas while the iron men of sailing days worked the flying ship on her way?

I'd made that wish often, but the passing of the sail was so swift and complete that it seemed like folly. Fate was kind to me, however. I played a brief but vitally important role on board one of the very last of the tall ships. Here's how it happened.

It was summer in Alaska. In the town of Seldovia, on lower Cook Inlet, the salmon canneries were running night and day. Across the little bay, close up against the foot of a mountain, the famous old schooner *Commodore* rode at anchor. She had lain there for many months. A big tug from Seattle was alongside her, had been for five days, trying to get the sailing ship's anchors up for the long tow



south. Something had gone wrong, and we in Seldovia wondered what it was.

On this particular afternoon the throb of the tug's diesels suddenly echoed between the mountains. She cast loose and swung in an arc toward the town, a white wall of water at her blunt bow. She docked and her skipper strode off up the boardwalk. A few minutes later he came back and singled me out from among the group that sat on the low rail.

"They tell me you're a boiler man," he said, his voice a rumble from deep within his barrel of a chest. He could have reached the lowest notes of "A-sleep in the Deep" without half trying.

"Afraid you're mistaken," I replied. "I've a small boiler in my hand canneries up the coast and I manage to keep it running, but I don't know much about repairing one."

"Come out to the ship with me," he urged. "Take a look at the donkey



The lights of Seldovia blazed brightly, laying bars of wavering silver across the waters of the bay. Overhead a big snowfield glistened in the starlight.



Old, unkempt, disheveled lady of the sea, she still had grace and beauty.

town, but my experience with the sailing schooner was not yet over. The skipper pointed one long, trembling finger at the donkey man.

"You're fired," he said. "Get aboard the tug and don't come near this boiler again." Then he turned to me and continued, "I want you to stay with us until the anchors are up. It's too late to try tonight, but we'll begin work first thing in the morning. Stand by this boiler and don't let the steam go down for a minute. You'll be well paid for your trouble, I promise."

That was a night to remember!

The boiler kept me busy until almost midnight. It was a sick old machine. The oil it burned was as thick as molasses, and the former fireman had allowed a lot of it to dribble down into the ash compartment until a big pool of it had accumulated there. As the heat from the fire became greater the accumulation took off with a bang, burning fiercely, thinning as it became hot, running out under the edges of the base in fiery streams like molten lava.

A busy cannery town in summer, with machinery humming, ships coming and going, hundreds of feet pounding the boardwalks night and day, Seldovia settles down at the end of the canning season to a long winter of quiet, isolated waiting.

boiler. We can't get any pressure in it. The engineers here at the canneries can't leave their jobs to help me. They're too busy."

Out on the Commodore I found everything in confusion. Clouds of steam poured from the boiler stack, where only smoke should have issued. Two complete crews sat idle while their captains cursed the delay. The trouble with the boiler was obvious—a blown flue, which we plugged in less than an hour. A wood fire soon brought steam to the gauge, and we turned on the oil burner. The captain of the schooner stood at my elbow watching the hand on the dial, and the stoop went out of his shoulders as he saw it creep up. I washed the soot from my hands and was ready to return to



There were sacks of sand piled behind the boiler and I built little dams with their contents, confining the burning stuff as best I could.

During the worst of my trouble the skipper suddenly appeared from aft. He coughed as the clouds of smoke swirled around his head. His startled eyes took in the mass of burning oil that rimmed the base of the boiler. He opened his mouth to say something. Then the steam gauge caught his attention. He smiled in satisfaction and forgiveness and left without uttering a word.

With the fire under control and the steam pressure steady, I stepped out onto the deck to clear the oil smoke from my lungs. It was a beautiful cloudless night with the big northern stars just above the towering masts. The bay was as level as a sheet of plate glass. I was absolutely alone with the old ship. Everyone else was asleep.

Slowly I became aware of a strange sensation. It seemed as though the old ship were trying to communicate with me, as though, without voice or gesture, she were speaking through some medium that I could almost, but not quite, understand. There was an urgency in her that called to me.

My footsteps were soft and noiseless as I crossed the well-worn deck and placed a hand on the rail. Off across the bay the lights of Seldovia blazed brightly, laying bars of wavering silver across the intervening water. Almost over my head, high up there above the tips of the finely-tapered topmasts, lying in a cup of a valley, was a big snow field that glistened bright in the starlight. The smell of the tide flats, bare now at low water, came to me dank and saline.

After a hurried check of the boiler I returned again to the deck to try once more to fathom this mystic message. It was no use. My perception was not keen enough to interpret the vessel's insistent call. The night passed slowly, dimming at last before the silver light of day that came from behind Red Mountain.

"Get something to eat as quick as you can," the skipper said. "Here's the donkey man to watch while you're gone."

My plate was only half-empty when I heard pounding feet. The door burst open. A crewman shouted, "It blew up!"

I hit the deck running. What a mess I found in the boiler room! The place was full of smoke and steam. No pressure in the gauge, no fire in the box, a couple of inches of water on the floor.

"I only tried to make her pop off," the donkey man explained. "Ran the steam up to a hundred pounds to see if the safety was all right. She went—"

The captain cut him short with a shove that sent him out onto the deck. We lost precious time again while another plug was fitted into the flue that had let loose. Again we filled her with water, hand-fired her until she had steam, got up a working pressure. Then the real fun began.

There was a rumble like a hundred fire wagons going overhead when the mate fed steam to the anchor winches. I heard the chain begin to clank as it came up reluctantly. Then there was a long pause. Angry voices rose in a chorus. Feet stamped. Then silence. I dodged up the ladder to see what was up.

The two captains were hanging over the rail, right in the eyes of the ship, gazing down into the water far below. The cause of the delay was apparent. Ever since some enterprising soul had stolen a section out of the stern mooring chain, the ship had been free to swing with the currents around her two bow anchors. She had been swinging for months, and the chains were twisted around each other so many times and so tightly that they would not separate when they met the ship's stem.

"Put the tug against the stern and push her around counter-clockwise," one of the skippers said. "That'll take the twist out."

"Not that way," the other skipper insisted. "That'll make it worse. We gotta go the other way."

The argument lasted for half an hour. Then, from my position by the boiler, I felt the ship list slightly as the tug thrust against her starboard side, well aft. Snatching a moment to run up and inspect the twisted chains, I was dismayed to find that they had made the wrong decision. The captain with the loudest voice had won. We were slowly twisting the chains tighter and tighter.

"Why worry?" the mate said, seating himself on a bench beside my boiler. "You're getting paid by the hour, aren't you?" He cocked his head to one side, listening to the growl of the diesels, feeling the slight cant of the deck. "She don't like to go crab-fashion, does she?" he continued. "That deep keel was made to keep her from doing just that. Like to make a bet with me on how long it takes them to find out they're shoving her around the wrong way?"

I SHOOK my head and he strolled thoughtfully aft. An hour later the tortured chains began to crawl and bunch in giant knots, biting into the steel sheathing of the stem, climbing up higher and higher as they twisted tighter. More arguing and swearing. More gazing down at the mass. Then the tug went around to the port quarter and began to shove us around the other way. Slowly the strain slackened until the winch could

begin to gain a link or two. The day was almost gone when they struck a new snag.

The two anchors came free at last, but they were fouled worse than any I have ever seen. Several tons of chain had been woven in and out, back and forth, from fluke to stock and back to fluke again until there was a solid ball half as big as a house. We spent a couple of hours running up into shallow water, dropping the mass, then dragging it off into deep water again hoping it would free itself. It held together as though it had been welded.

By that time it was almost dark. Another day was done. The crews went to supper. The skipper came to me to urge me to keep a constant head of steam through another night. My request to let the boiler rest during the night, and fire it afresh at daylight, fell on deaf ears. His was a one-track mind. That steam gauge must be kept registering.

Another long, starry night. Again I went on deck and felt the ship trying to talk to me, and again I did my best to understand her. Bit by bit she began to get her message across. She spoke of the long runs she had made, of the wealth of cargoes she had carried. She made me remember the times she had competed in the grain race from Australia to Cape Flattery, off Puget Sound. She called up before me the men who had paced her sturdy decks. She reminded me of the time when I, myself, had stood beneath her hull as she lay on the dry dock in a Seattle shipyard, admiring her long clean lines and her remarkable state of preservation.

Then she tried to tell me the rest, but I couldn't quite grasp it. What was the trouble? What danger threatened?

With my arms folded on the rail, I looked off across the oil-smooth water toward town. A black object, only half discernable in the starlight, lay against the beach near one of the old canneries. Like a flash it came to me. I knew what threatened the proud old ship on which I stood. Her urgent message got through to me in a sudden moment of perception.

That black object over there had once been a proud ship, too. Now she was a waterlogged hulk, shorn of her masts, eaten by the borers, deserted and forlorn, with the tide running in and out of her. Once she had been the *Salvator*, with tall masts and drum-tight canvas, driving across the sea to far ports. Now she was a ghost to make a seaman weep.

The same thing that had killed her was now waiting for the *Commodore*. The *Salvator* had headed for Seattle under canvas a few years previously. A storm had stripped her sails from the spars and she had limped back to Seldovia for new wings. Her owners had wired the crew that her actual

value was not enough to justify rigging her out afresh. They had beached her and taken a steamer home.

The Commodore had been sold, we heard, for a ridiculously small sum. Another day or two of delay with her anchors would seal her doom. She was not worth keeping two crews and the tug standing by much longer.

Her message was now as plain as though she had spoken it in words. She was pleading with me to do my best to save her. In some strange way I had become the only one who understood or cared. Tomorrow would see her free—or doomed.

My hand stroked her scarred rail as I promised her that her anchors would come up and be freed.

Morning brought me another problem. My fresh-water supply for the boiler was dangerously low. I asked the tug skipper to make a trip to town for some water.

"What?" he shouted, "take my crew back to those beer parlors? Not on your life! We'd be here the rest of the summer if I did!"

The schooner's captain spoke quietly.

"This is an emergency. We can't be held up by anything more. There's been too much delay already. Fill your boiler right from the bay. I'll be responsible for anything that happens."

That sounded utterly mad to me. I stood for a moment staring incredulously at him. Then I swung up a freeing port, dropped my suction hose down to the salt water, started the pump. It was water. It was wet. It made steam. But the results were awful!

THE salt rapidly built up a strong solution in the boiler. Then, as soon as any steam was drawn, it foamed and boiled up, coming out into the steam lines, making the winch engine pound and killing my fire. I sat for hours with my hand on the fuel and steam valves, cutting them as soon as the rumble of the winch began, watching them like a mother.

They must have raised those anchors a dozen times, dropping them back in shallow water and dragging them over the bottom, trying to unsnarl them. Then they hauled the tangled mass up as high as it would come and took the ship across to the dock, where a scow was placed in position for men to work on the snarl. They heaved at it with winches on a cannery



The Salvator, once a graceful schooner with tall masts and drum-tight canvas, driving across the sea to far places, was not worth rigging out with new wings.

tender. In the end they had to unshackle both anchors, but they got them free.

With my fire out and the boiler drained, I filled it with fresh water through a hose on the dock. Then I filled the immense steel tank that ran clear across the ship. It took more than an hour. The cook, disgusted with his limited supply of water for cooking, asked for the hose when I was through. He put it into the top of the six-foot galley tank. Two hours later it was still pouring water into that small receptacle, and the cook said it was not yet full. Good enough reason. Water had been left in the tank when the ship was last used, and it had frozen and burst the entire bottom out. Down in the hold everything was afloat. The water was up over the keelson, and dunnage and sails were floating here and there.

My job was done. As I helped cast off her lines and jumped to the dock, some of my friends looked at me without recognizing me. I was caked with dirt and smoke and soot from my long task with the boiler. In one hand I gripped a roll of bills the skipper had given me in payment for my work, but I was not interested in them just then. My eyes were on the outgoing ship.

Walking to the very end of the dock, I watched anxiously as she moved slowly out through the sharp turns of the treacherous channel. That deep keel, I knew, reached close to the bottom in several spots.

Following the squat tug, the Commodore reached the open inlet. For several minutes her stately masts were lined up on the smoking cone of Iliamna, far across on the peninsula side. Then she swung slowly west. The tug raced ahead, lengthening her cable. I had one last look at the gallant lady, feeling pity for her in my heart. Poor disheveled, unkempt, abused thing, still she had beauty, grace and dignity.

Somehow I wanted to call goodbye to her, to exchange one last parting gesture of some kind. My heart cried out to her as I watched her during those last few moments. And she must have understood, for she answered. The first ground swell of the gulf met her just then. Her bow dipped slightly to meet it. Then her stern dropped briefly. It was a perfect curtsy, the gesture of a high-bred lady from a gallant age gone by.

Then the cable tightened again. The rumble of the tug's diesels rose to a drum-deep roar. The ship quickened her pace and passed swiftly from my sight forever.



A flock of Umnak sheep, heavy with Aleutian fat and wool, ford a small stream on their way to be sheared.

All photos by the author

A Land of Sheep

by Tommy Corr

BETWEEN the North Pacific and the Bering Sea, stretching some fifteen hundred miles westward from the tip of the Alaska Peninsula, lie the Aleutians, the "islands without a summer."

In 1957 I went to Umnak, fourth major island in this reputedly desolate chain, with Gene Wunderlich, Peter Lent and Bob Kindschy, to make field studies from which the livestock grazing capacity of the area could be determined. As we flew westward in a Reeve Aleutian Airlines DC-4, we wondered apprehensively whether the high wages offered by the U.S. Bureau of Land Management could compensate us for three months in this desolate, treeless area.

True, we experienced the notorious fog and fierce winds we'd heard about. I was lost once for twenty-eight hours and later marooned for fourteen hours on a steep cliff because of the fog. Pete, who dislocated his shoulder, had to wait out six windy days before he could be flown to a doctor.

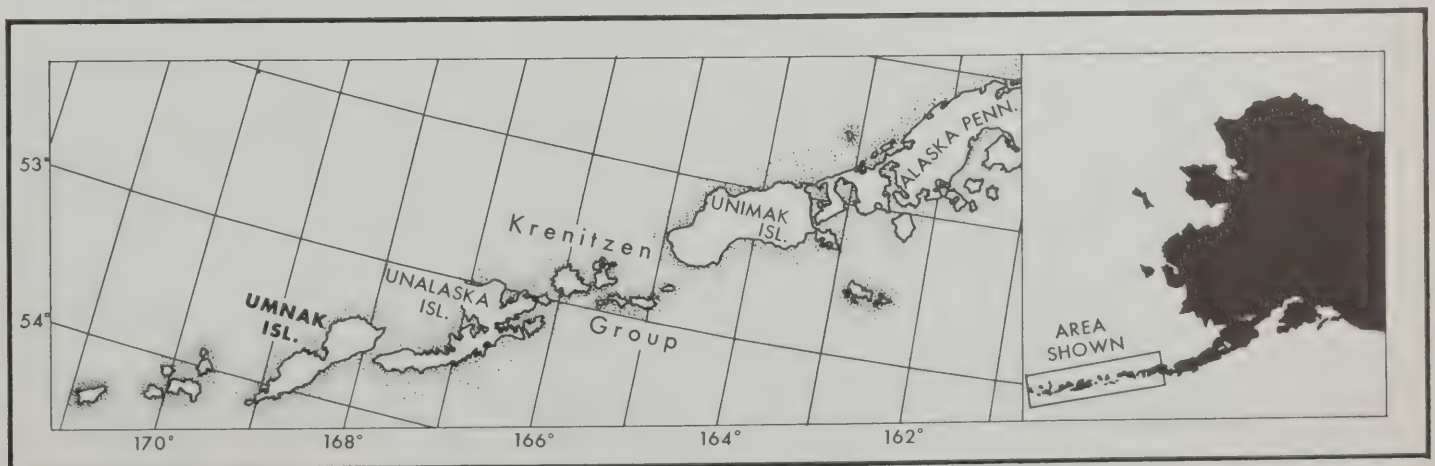
In spite of these and other inconveniences occasioned by the weather, however, we fell in love with Umnak. It is not reminiscent of the "Paradise of the Pacific," more than thirty-five hundred miles to the southeast, but it is a paradise of another variety.

Umnak is an island of flowers. In my first letter to my wife I wrote, "Walking here is like visiting Shaw's



Like other Aleutian islands, Umnak's shoreline of volcanic origin is bleak and rugged.

. . . Fog . . . and Many Flowers





- Aleutian grasses grow rank around on old abandoned Aleut village on Umnak.
- A range rider's horse stands in a field of wild grasses sprinkled with flowers.



Gardens or the Tulsa Rose Gardens, only this is so much larger and God Himself planted here. Many times I hate to take a step, for in places you can't put your foot down without crushing beautiful blossoms. There are millions more just like them, yet it seems a shame to destroy such perfection."

Flowers Everywhere

On our arrival the ground was covered with rose-purple orchids that looked as if they were meant to decorate a woman's hair. White anemones, tiny ground dogwood, Indian paintbrushes, geraniums and black rice lilies bloomed everywhere. One of the most striking was the lousewart, of which our boss, Gene Wunderlich, used to say, "Too beautiful to be known by such a lousy name!"

The swamps and wet meadows were alive with white bog orchids, marsh marigolds and a few lupines. Blue and yellow dominated. Nature had scattered ferns and other foliage plants among the flowers, as if in a most artfully planned garden. Except for lupines and marigolds these are small plants, but each, by its exquisite perfection, seemed bent on distinguishing itself from the whole gorgeous mass.

All during the cool summer, similar to spring elsewhere, each group of lovely flowers was replaced as it faded by another equally lovely group. Rhododendrons only two or three inches high turned the hillsides scarlet. Angelica, monkshood and asters painted vast acres of the plains. Monkeyflowers and Jacob's ladders appeared in the lowlands. Blooming paintbrushes, lousewarts, buttercups and geraniums fell within our hoops throughout the summer.

These hoops were our most important equipment. Range surveyors in different areas use hoops of string, wire, rope or other materials. Gene originated the idea of filing the teeth off a band-saw blade, making a hoop which maintains its round shape yet can be coiled with a flip of the wrist for easy carrying.

Tossing the Hoop

The range surveyor examines the vegetation in a minimum of ten plots to the square mile and at least three plots within each vegetational type. Each man is responsible for the area half a mile on either side of his transit.

The plots are chosen at random, every effort being made to keep the human element out of the selection. Some surveyors count their strides, or if on horseback, the number of times the horse's left front foot strikes the ground, and at a certain number toss the hoop over their backs.

The first plot each morning and afternoon is estimated and then each

species of vegetation is clipped and weighed separately. If the estimate is within ten per cent, the surveyor continues to estimate. If not, he clips until his estimates are consistently within ten per cent.

The weight of each species in every plot is recorded on a type sheet, and on the reverse side is recorded any other pertinent information. Samples of each palatable species are dried periodically for calculating the dry weight of food value to the acre. The exact location of each plot is also marked on an aerial photograph.

When winter comes, all the information gathered in the field is compiled and the area's livestock carrying capacity determined. Still, summer is not without its bookwork. Each night a range surveyor wades through column after column of figures and inks his aerial photographs, consoled by the thought that tomorrow he will be back in the field.

More Flowers

After completing half of our assigned area we thought we had seen every flower Umnak had to offer. We packed our horses and headed into the Black Creek area—and found a completely different vegetation. Lupines, monkshood and cow parsnips were waist-high. A different species of fireweed appeared, and beach peas bloomed under the tall forbes and grasses. Strawberries and nagoon berries offered us their fruit, and picturesque Mount Vsevidof watched over us.

The natives showed us other edible plants. They use bulbs of the bog orchid like potatoes, peel the stalks of angelica and cow parsnips and eat them like celery, make tea or Georgian coffee from geranium leaves. From the geranium they also make a cough medicine which tastes awful and which they guarantee will cure any cough. They told us they liked to eat the lupine roots. We were ready to try them when an Aleut tipped us off—lupine roots are laxative until after a killing frost.

We formed close friendships with the Aleuts. Although they have been visited by numerous anthropologists, they tried graciously to answer our endless questions. From them we learned about the abandoned villages we came across. Ancient village sites are still known by the names of the villages, and spoken of as we speak of neighboring counties. They told us the uses for artifacts we found, and taught us a great deal about fishing.

The people of Nikolski, now the major settlement on Umnak, were interested in incorporating their village and thus, for the first time, obtaining legal title to the land on which their homes are built. Gene Wunderlich represented the Government, explaining both the procedure and the advantages. Bill Ermeloff served as interpreter for the



- The typical sod house (barabara) of the Aleut is usually a one room affair. This one, still used by overnight travelers, is a duplex.
- Not all is grass on Umnak, for in some places the shifting black volcanic sands lie dead and barren as any Saharan landscape.





- The monthly mail boat, the EXPANSION, lies-to outside the reef at Nikolski and the men of the village lighter her cargo.

- Here workmen of Nikolski push off a scow-load of Umnak wool which the waiting EXPANSION will transship at Seward to the "States."



older people who could not speak English, and he had quite a job translating some of the legal language into Aleut terms.

It was difficult for the natives to understand why they had to pay a surveyor to obtain title to lands upon which their fathers and their fathers' fathers had lived. According to Carbon 14 tests of the bottom layer of charcoal in diggings at Nikolski, it was a village as long as three thousand years ago.

The church at Nikolski is Russian Orthodox. The entire service is in Russian. I did not understand a word nor know the significance of the rites, but I had a feeling that God was present.

Through the eighth grade an Aleut's schooling compares well with any American's, and most of the people speak English, Russian and Aleut. To continue in school they have two choices—correspondence courses or attendance at a native high school a thousand air miles away in Southeastern Alaska. Many parents discourage their children from going away to school, lest they never return to the village.

War Damage

During World War II the Aleuts were evacuated to Southeastern Alaska, and allowed to take only two pieces of luggage each. During their absence, souvenir hunters in the Armed Forces made off with many of their belongings. One woman who had hidden the family silver in the walls of her home returned to find the wallboard ripped off and the silver gone. Uncle Sam tried to right these wrongs by paying the Aleuts

for their losses.

We were among those who watched Ben Carlin and Boyde DeMente arrive in their amphibious jeep, the *Half-Safe*.

"I heard over the radio they were coming," one Aleut mused. "I read it in the paper. I see it coming. Still I can't believe that little thing crossed all that water!"

This native's ancestors made long and dangerous voyages in craft smaller than the *Half-Safe*, and garnered much of their livelihood from the sea. Today they take salmon, poggies and halibut from the Bering Sea, trout and salmon from lakes and streams. I doubt whether construction workers on Umnak ever had such sport fishing elsewhere. In one clear pool in Salmon Creek, I counted fifty-six fish more than eighteen inches long.

Fox Trapping Dead

The Aleuts used to trap foxes, but the current price of fox skins makes trapping unprofitable. The quickest way to get an Aleut into a friendly conversation is to express the hope that fox fur will again find favor in women's fashions.

Rabbits offer an economic possibility, but Nikolskians do not eat their pets. Already the progeny of a single imported pair make it difficult to walk through the village without tripping over a bunny, and one small island nearby has become known as Rabbit Island from the increase of another pair.

Today, except for military projects which come and go, Nikolski's chief industry is wool. Aleutian wool commands a premium price. Art Harris's six thousand sheep forage for themselves, with controlled breeding and shearing the only deviations from the wild state. Outside breeders figure they need a hundred and twenty per cent lamb crop for a profit (twin and triplet births are common among sheep). Art shows a profit from an eighty per cent lamb crop. Art's cattle do well too. Range-fed, they look grain-fed.

Mail Boat

When the MV *Expansion* came in, we learned what the natives meant by Christmas twelve times a year. The *Expansion* sails monthly from Seward with mail and passengers, if any. At Nikolski she anchors beyond the reef, and every man in the village helps load the wool and unload the supplies she brings for stores and individuals. Everyone sighs with relief when the work is finished, then tears into the letters, magazines and packages from Sears and Wards.

One morning, as I fed our scraps to her dog, an Aleut girl motioned for me to follow her. She was persistent, appearing and disappearing again and again. Finally I stood outside her door,



- Time has changed but little in the Aleutians. The women of the village still prepare such fish as this halibut from the bountiful sea.

- Olga Talanoff shows off two poggies to other Aleut children and Nikolski's only white child, Patsy Harris, in the right foreground.





← In the Russian-Orthodox church at Nikolski, you buy a candle on entering, paying what you wish.

waiting to see what would happen. Her mother motioned to me from the window and when I entered, gave me a note she had found in a broken bottle on the beach. It had been released from a Canadian fish hatchery that was studying tides and currents, and one dollar was offered for the return of the card.

I filled out the card, and then the girl spoke for the first time. She offered to do my laundry without charge! She'd noticed the condition of the clothes we hung up to dry, saving the trouble of rinsing by hanging them in the rain.

The beach offered many curiosities—Japanese and Russian glass fishing floats of all sizes, wooden baskets, parts of ships, fishing gear. It seemed strange, but nearly all the drift was man-made material.

Of Rocks and Sky

One day on the beach I picked up a rock containing a small fault, and tried to explain it to an Aleut girl. Bewildered, she asked, "Do you read rocks?" A few minutes later she looked at the sky and said, "It's going to storm."

"Do you read the sky?" I asked. Her "I guess so" was confirmed that evening.

In physical geology, Umnak offers the whole book—meandering streams, straight young streams, volcanoes, young mountains and old, rounded hills, glaciers, faults, folds and series of uplifts, all within a day's walk, and no trees to obstruct the view. I counted as many as fourteen successive lava flows in exposed sea cliffs, but the unfolded portions of the cliffs in Udak and Driftwood Bays contain slate and shale.

Man has altered Umnak's geology slightly. There is a native custom of picking up a rock along a trail and depositing it in a mound at the trail's highest point, to give thanks for a safe journey.

There are other mounds known as bird mounds, with strikingly luxurious growths, believed to be the uplifted guano of birds—some think sea birds, but Bob Kindschy attributes them to Lapland longspurs and Savannah sparrows, and is writing a paper upholding his theory.

On some hills these bird mounds, from six inches to several feet high, appear in village-like arrangement. Where the immediate area has been severely eroded, it can be seen that the cores are large rocks or groups of rocks.

Birds are everywhere. Baby gulls are pets for children, and gull eggs are food. By the time we arrived, the gull eggs were a little too ripe for our taste. Other birds furnishing food are ptarmigan and numerous species of ducks.

In the Black Creek area, scores of mallards so tame they can often be caught in one's hand chose lakes with no drainage for nesting. At one of these lakes, baby mallards were almost as hard to keep from stepping on as the flowers.

Riding at Black Creek one day, I looked over my shoulder and thought I was seeing a mirage. On the skyline behind me, in a most beautiful blue and in reverse order, was a replica of the hills in front of me. As the clouds lifted I found I was seeing the Islands of Four Mountains. Though quite close, they are rarely visible from Umnak during the foggy summers. On clear days one can see smoke pouring from Mount Cleveland, the highest of the four peaks.

On the other horizon, the near-barren foothills of Mount Recheshnoi were like a painted desert—all shades of red, blue, purple, black, yellow and brown intermingled with patches of green grass. To my right lay the endless sand dunes of a miniature desert. On my left towered Mount Vsevidof, 6,920 feet, Umnak's highest and the Aleutian chain's second highest mountain.

Vsevidof beckoned to me, gently but forcefully. Though Bob was not interested at first, he too began to hear Vsevidof's call, and finally we took a day off to climb it. Maybe to experienced climbers it wouldn't be much of a challenge, but to us, without equipment and making our first climb, that was a lot of mountain rising straight out of the sea.

On Vsevidof's sides were excellent examples of spheroidal weathering of rocks—perfectly round boulders with cast-off portions still attached like the petals of a flower. We saw complete series of aphanitic igneous rocks, from rhyolite to basalt, and mud flows, slumps and patches of black snow. At about five thousand feet we found a piece of sea-formed shale, too large to have been carried there by man.

We were about halfway up when the fog came in and we chose the wrong ridge. We'd hoped to find some evidence to confirm reports that Vsevidof had been smoking since the recent earthquakes and tidal waves. After our mistake we knew we'd be lucky to reach the crater by dark.

Night on a Volcano

Hacking steps in the ice with my knife, we made the last two hundred yards and reached the crater rim at nine p.m. We could see nothing. We turned back and descended as rapidly as we dared. By ten p.m. it was pitch dark. Afraid of stumbling over one of the sharp cliffs, we huddled close together and tried to sleep. Our trousers were wet from crawling in the snow. After an hour we gave up all thought of sleep, and the rest of the night we

spent doing calisthenics and singing.

About three a.m. we had a good view of the northern lights. As it began to grow daylight we built a fire with willow roots—a plant about two inches high with roots six feet or more long that burn like paper. The fog lifted just long enough for us to spot our horses. We made for them, and ran transit to the Black Creek cabin.

That one-room tin shack at Black Creek didn't look like much. The roof leaked when it rained and threatened to leave when the winds reached sixty to seventy miles an hour. Still, the seventeen days we spent there were pleasant. After a hard day's work we'd prop our feet on the sand box around the oil-barrel stove and swap experiences. Bob would play his harmonica and I would sing.

It was in this shack that I had my experience with the "Outside Man."

Spirits

The worst fear any Aleut has is to be lost at sea. Should this happen, he believes, his spirit will return to punish the village for not giving him a proper burial. A banging window shutter or other unexpected noise is often mistaken for a visit from the Outside Man. Many Aleuts claim to have seen him.

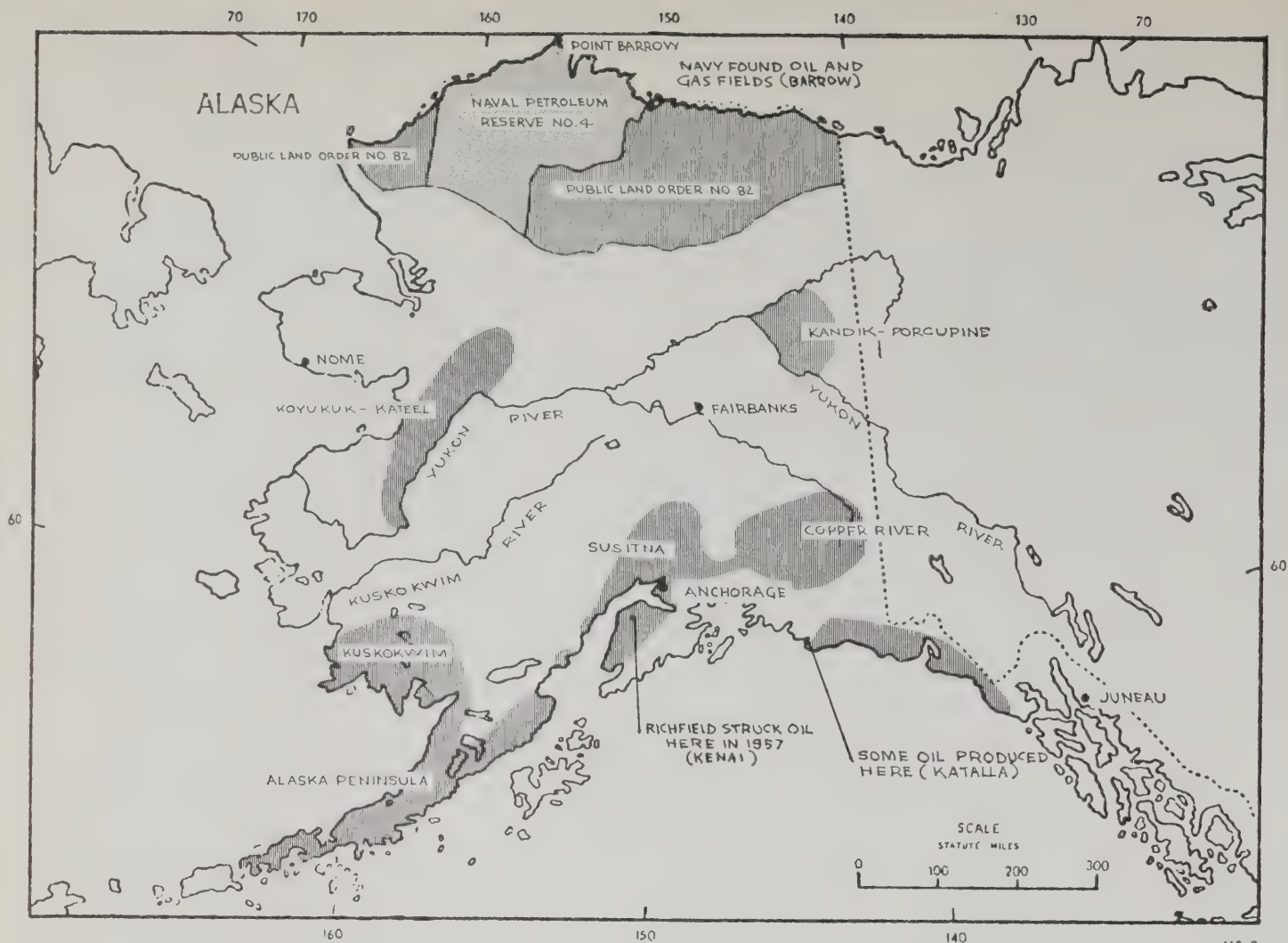
Alone at Black Creek, I awoke to a weird scratching noise inside the cabin. I paid little attention, but when Bob rode in I jokingly told him the Outside Man had been there. Next morning, when both of us awoke to repeated scratching sounds, we investigated. A bird had taken shelter from the storm in a partly sealed portion of the roof.

Perhaps it was the flowers that made us love our work. Unlike the construction men, we could take time to examine a fox den, a sea cave, an abandoned barabara or an interesting geological formation, and it meant only that we were later dragging in at night. Anyway, the summer passed too quickly.

As we hurriedly took the drying grass samples from the line or loaded our equipment into the red and yellow plane, Dan Krukoff, whose help throughout the summer had been invaluable, pulled a switch and began photographing us.

"Take your picture!" he'd say, and click his shutter. After all, we'd dished out the same to our Aleut friends all summer, and none of them could have been better pleased with the prints we sent them than we were with those Dan sent us!

I often wonder whether Red, the horse assigned to me, has since been the ranch horse he was before. I'll bet he still stops every hundred paces for his rider to take a vegetation plot, at every bird mound for his rider to photograph it, and at the clear pools for his rider to count the fish.



Shaded areas represent oil lands under lease or reserve in May, 1958. With approximately 30 million acres under lease and 84 million acres of "possible" oil lands available, the magnitude of Alaskan oil exploration becomes apparent.

Oil... and a New Era?

ALASKA is today the scene of what possibly may be one of the biggest oil rushes in history.

Further, it is entirely possible that the Territory could become one of the most important oil-producing areas in the world.

And strangely enough, "the world" hasn't heard much about it.

These are the facts:

A "real producing well" has been brought in, close to navigable tide-water in a more or less settled area of Alaska.

Last summer the Richfield Oil Company, drilling on the Kenai Peninsula, near Anchorage, struck oil at about

11,000 feet of depth with a flow of 900 barrels a day.

Other wells are being drilled in the same area. Rumors of more oil are heard regularly. By the end of the 1958 summer drilling season, some of the secrecy may give way to startling announcements.

This "real producing well" brought in by Richfield last summer has a particular significance.

It is significant because it is in an area commercially attractive to operation. It is significant because the oil was found in a geologic strata in which oil men did not necessarily expect to find oil and served to emphasize a pos-

sibility of much greater oil reserves than could otherwise have been hoped for.

Perhaps more important in an appraisal of the significance of the Richfield strike is the fact that the find was made at a time when dozens of major oil companies had begun major efforts that, to many, might well have been their last gamble on Alaskan exploration.

Alaska has a long history of oil "hopes," dating from a discovery of oil seeps back in 1853. The Alaska Peninsula and the Cook Inlet area had their first "rushes" back around the



home bound

The salmon season's ended and the cannery is
 down;
 We've worked at white man's jobs the summer
 through,
 Yes, we've pocketed your wages but we're sick
 and tired of town
 So now we take the way our fathers knew.
 We'll hoist our old hide rigging and we'll beat
 along the shore
 Where tides run deep and swift through kelp-
 draped rocks,
 We'll cut past shining mountains, headlands that
 we've known before
 Past the islands where we once trapped Arctic
 fox—
 Nine days up the coast line women wait our
 laden boat,
 They have spent the summer drying countless
 fish,
 Food for dogs. But they want seal meat, cari-
 bou, and moose and goat—
 It's men's work and joy to fill the empty dish!
 Yes, our money work is ended. We are heading
 for our land,
 Where the sun and snow, the sea and air are
 sweet
 We have white man's tea and sugar—they are
 good to have at hand
 But we hunger for a taste of native meat!



HOME BOUND

turn of the century. Government action in placing many oil and coal areas in reserve, plus major discoveries in California, helped to slow interest in Alaskan oil.

At Katalla, near Cordova, shallow oil wells were brought in and another rush got under way. A small refinery was built, with limited production. After sporadic operation, this refinery burned in the depression year of 1933, and was not rebuilt.

Meanwhile, in 1923, the Point Barrow oil seep area was slapped into a Navy reserve covering 37,000 square miles of the promising Arctic slope. The Navy reserve plus other reserves created on coal lands added to a general dampening effect. The "booms" died.

Periodically, however, a major oil company would include Alaska for more "survey" work. Field parties came and went without fanfare, and with the usual secrecy that seems to be a part of the oil hunt.

In the late thirties, an enterprising wildcatter from California focused at-

when they returned to town, or whether it was the Congressional demand to know what the Navy had done with some fifty millions in exploration funds, the secrecy veil was finally pierced and the word was out—along with core reports and other stratigraphy information.

The Navy had not only found "signs" of oil; it had discovered two oil "fields," and had rated another area as a "prospective" field. Navy drills had also discovered two gas "fields" and four "prospectives."

All told, in their sudden flurry of activity, the Navy's contractors had put down thirty-five test wells and taken forty-one core tests on eighteen structures.

They had found oil—they estimated from 30 million to more than 100 million barrels of it.

They had found natural gas—with reserves of from 370 billion to 900 billion cubic feet.

And they had bought and paid for a great deal of information of more than

110 million of those acres were ruled "geologically possible or favorable" for oil development.

A few weeks before Richfield struck oil last summer on the Kenai, 6,500,000 acres in Alaska had been leased for prospecting. That total is in itself a considerable piece of real estate.

In the months following the strike, however, the pattern of a real oil rush began to develop. Plandloads of wildcatters and speculators began arriving in Anchorage and Fairbanks almost before the news of the Richfield strike hit the streets. Applications for leases swamped the Bureau of Land Management offices. Individuals and groups from all corners of the world began to file on available acreage.

New names began to crop up on the lease maps—Kandik, Kateel, Kusokwim, Copper River, Susitna—as well as the names of the older oil areas, Katalla, Yakataga, Kenai, Cook Inlet.

The lease rush grew and, as of this writing, less than a year since Richfield brought in Swanson No. 1 on the Kenai, there are more than 30 million acres under lease in Alaska, according to Territorial Mines Commissioner Phil Holdsworth in Juneau.

Thirty million acres, held in hope by shop-keepers and by giants in the industry, represent an area almost half the size of Oklahoma. And there is still acreage left.

With an area estimated at 84 million acres of "possible" oil land outside of various reserves and open to leasing, and more than 30 million acres applied for, an area of approximately 50 million acres is still available.

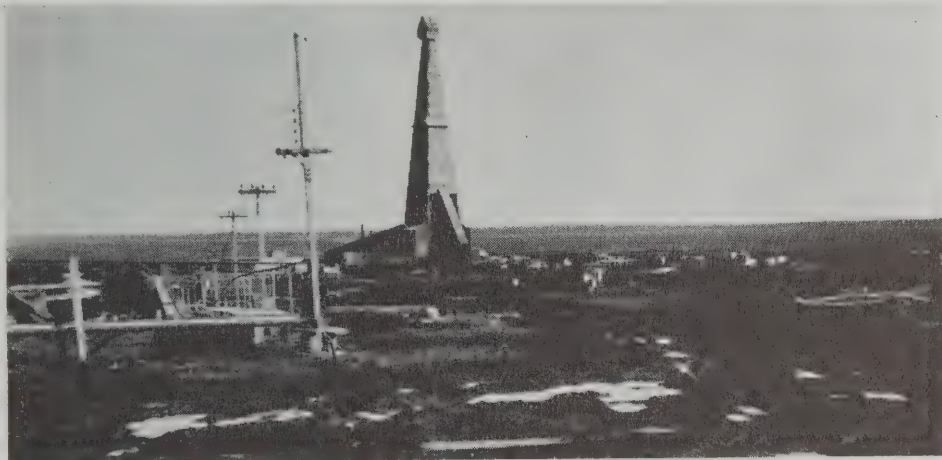
Going Fast

This remaining acreage is going swiftly as new lease applications arrive daily. Best estimates are that by 1960, all of this total will be taken up, but should another major producer report a well in the interim, the lease rate will be still further accelerated.

To even the most candid observers, this rush is not without substance. As in all booming oil areas, there are plenty of hot-air promoters, and likewise, as in all oil areas in the prospecting stage, not even the soundest operation has any guarantee of production, but there are a lot of "blue chips" in the game.

Whether or not oil will be proved in large quantities is something still hidden in the crystal ball, but with the possibility existing, a look at Alaska's geographic position shocks the imagination.

Alaska's southern belly rests solidly on the curve of the Great Circle shipping route, midway between the lands of the West and the East.



The Navy's discovery of oil on the distant Arctic slope excited big companies but little. The knowledge of stratigraphy thus obtained, however, was of real interest. Shown above is the Navy's Oumalik No. 1 drilling operation in the Point Barrow reserve.

tention anew on Alaskan oil sands, going deeper than any other well drillers had in the past. Where deepest tests had been made about 6,000 feet down, the California wildcatter went to better than 11,000. He got a few barrels of oil, but had trouble with high gas pressures and caving casings.

His efforts were not going unnoticed on the grapevine of the oil industry, however, and more major oil producers began new appraisals of Alaskan opportunities.

Then the Navy went into action and in 1941 began a series of surveys and eventual drillings to test its own reserves and examine other potential areas. After more than twenty years of "reserve," Navy drill bits finally went to work in the Arctic.

Whether drillers talked too freely

passing interest to the private oil drillers.

Oil on the Arctic slope, icebound most of the year and long pipeline distances from transportation, didn't excite the big companies much. What did excite them, however, was a lot of knowledge of the underlying stratas of the North and how to reach those stratas. This was information that could be had only by drilling for it and paying for the drilling. With the lid off in Washington, the Navy's information was available to all.

Gradually a new "rush" began to take shape, and with it a broadening Government study of the Alaskan oil potential.

Finally, a staggering conclusion was reached.

Of Alaska's 375 million acres of land,

We Conquered Logan

by

Cecil M. Ouellette



The southwestern corner of Yukon Territory in Canada is a remnant of the Ice Age, a land of great mountain ranges and rivers of snow and ice.

The wilderness is as trackless as the sky, while the mountains, wrapped in their snow, ice, and clouds, seem never before to have been looked at. It is a landscape void, still, lifeless, almost uncanny in its solitude. Everywhere are giant peaks that lift their white heads high and only a few have been trodden by man.

The Yukon, itself, is big country, a vast, partly Arctic region covering 207,076 square miles. The animals that roam this land are big, too. Its black bears, grizzlies, wolves, moose, mountain sheep, and caribou, have become an attraction for hunters from far afield. So, it was with understandable eagerness that four other mountain-climbers and I stepped off the plane in Yakutat, Alaska, after the "biggest game" in the Yukon.

Our big game matched the size of the country. We were after the East Peak of Mount Logan . . . the highest unclimbed point left on the continent.

Mount Logan towers over a glacier wilderness in the Alaska-Yukon border area of northwestern

Mt. Logan, elevation 19,850 feet, is the second highest, but largest mountain in North America.

Three of the Logan expedition descend the white flanks into a gray world of swirling snow.

Canada. It is the second highest peak on the continent with an elevation of 19,850 feet.

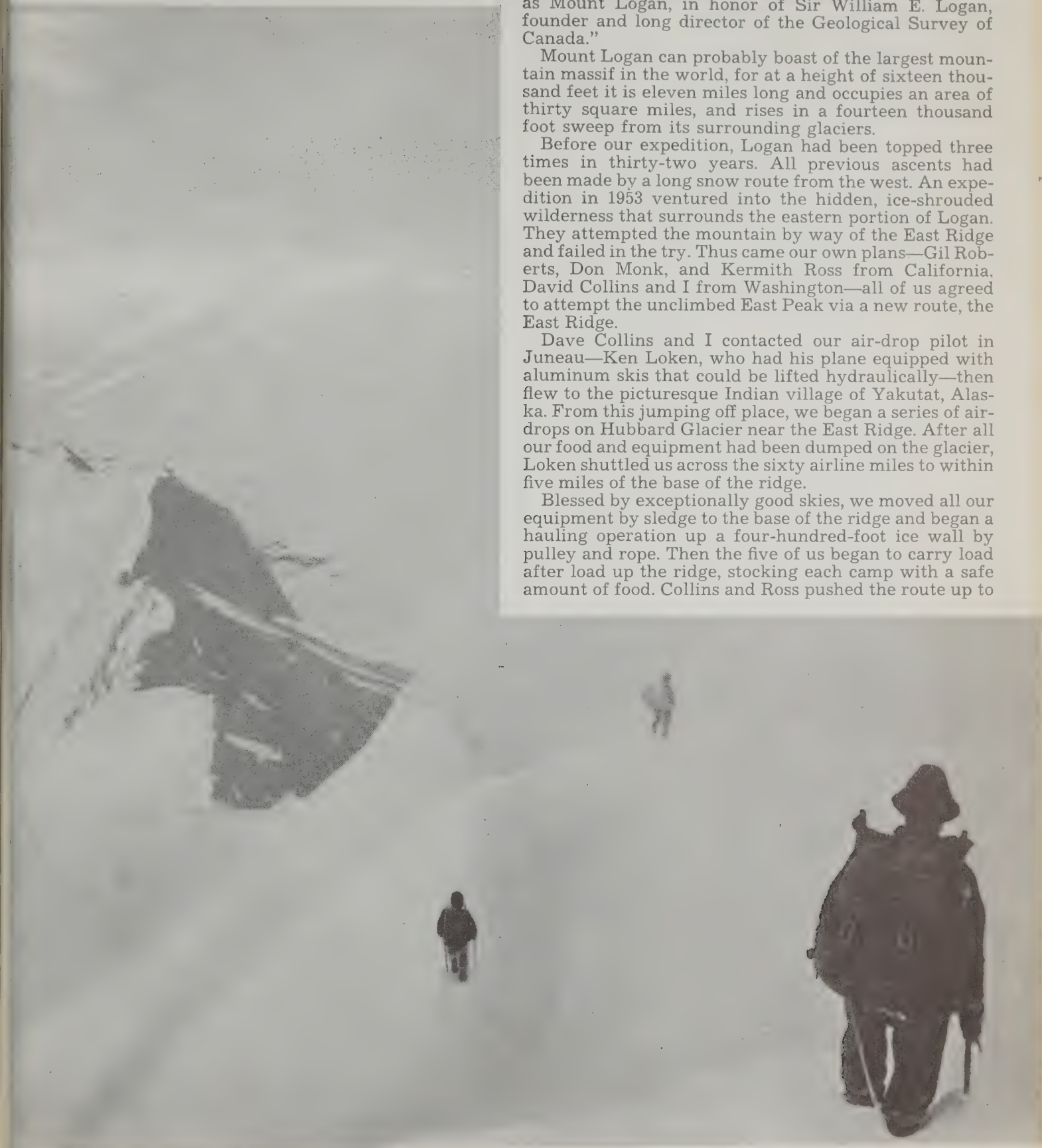
In 1890, I. C. Russel glimpsed Logan from the foothills of Mount Saint Elias and wrote, "The clouds parted toward the northwest, revealing several giant peaks not before seen . . . one stranger rising in three white domes far above the clouds was especially magnificent. We took the liberty of giving it a name. It will appear on our maps as Mount Logan, in honor of Sir William E. Logan, founder and long director of the Geological Survey of Canada."

Mount Logan can probably boast of the largest mountain massif in the world, for at a height of sixteen thousand feet it is eleven miles long and occupies an area of thirty square miles, and rises in a fourteen thousand foot sweep from its surrounding glaciers.

Before our expedition, Logan had been topped three times in thirty-two years. All previous ascents had been made by a long snow route from the west. An expedition in 1953 ventured into the hidden, ice-shrouded wilderness that surrounds the eastern portion of Logan. They attempted the mountain by way of the East Ridge and failed in the try. Thus came our own plans—Gil Roberts, Don Monk, and Kermith Ross from California. David Collins and I from Washington—all of us agreed to attempt the unclimbed East Peak via a new route, the East Ridge.

Dave Collins and I contacted our air-drop pilot in Juneau—Ken Loken, who had his plane equipped with aluminum skis that could be lifted hydraulically—then flew to the picturesque Indian village of Yakutat, Alaska. From this jumping off place, we began a series of air-drops on Hubbard Glacier near the East Ridge. After all our food and equipment had been dumped on the glacier, Loken shuttled us across the sixty airline miles to within five miles of the base of the ridge.

Blessed by exceptionally good skies, we moved all our equipment by sledge to the base of the ridge and began a hauling operation up a four-hundred-foot ice wall by pulley and rope. Then the five of us began to carry load after load up the ridge, stocking each camp with a safe amount of food. Collins and Ross pushed the route up to





● Juneau pilot Ken Loken lands supplies for the base camp on Hubbard Glacier below the East Ridge of Mount Logan.

twelve thousand feet and established Camp Three; then a furious storm forced us into the tents where we remained for four days. On the third day, I could only think quietly of a statement I'd heard that "the commonest ailment of climbers on big mountains is bed sores."

On July Fourth, we celebrated by reading and resting in a Makalu tent while a wild snowstorm raged on the outside, the frequent deafening roars of snow and ice avalanches our own special brand of fire crackers.

Up Through Storms

Day after day, we slowly made our way higher. Problems filled our path in the form of rock cliffs, ice walls, huge cornices, razor-like snow aretes, and crevasses. Another tempest isolated us in the tents for two more days, then we moved on. Our motto had become, "rest days equal storm days."

North from our position on the ridge and across a void was Logan's neighbor—McArthur Peak. This formidable-looking peak pierces the heavens at 14,400 feet and is the highest unclimbed mountain left in North America. A mile below our camp was Hubbard Glacier, which flows in a river of snow and ice down a mountain-walled valley to the sea.

While packing a load up to one of the high camps, Collins and I witnessed an amazing spectacle. A dry snow avalanche spilled off the north face of Logan, raced a mile across the Hubbard Glacier, and crawled halfway up the side of a four-thousand-foot rock-face . . . all without a sound.

Except for a few slips on ice slopes

and near misses by rockfall, we had climbed without incident; then our luck suddenly diminished. Collins and I, roped together for safety, climbed up from a low camp and deposited our loads at 13,500 feet beneath the brow of a curving bergschrund. Returning to the lower camp, Dave fell into a small, concealed crevasse, but managed to roll out of it, then took four more steps down the slope and disappeared!

The rope went taut, my crampons dug into the snow, and I slammed my ice axe deep in the slope . . . he had fallen into another crevasse. Fortunately, he landed on a snow bridge inside the crevasse and using a chimney technique, worked his way back to the surface.

The next day we pushed past fourteen thousand feet. A longitudinal crevasse flanked by a typical avalanche slope caused considerable discussion before we decided to risk it, but it was the only possible path left. It was decided that should the slope go, we would jump in the crevasse rather than slide down the mountain. We climbed upward on the slope without episode. I was leading on the return trip and following our tracks in the deep snow along the crevasse while Monk was in the middle and Collins on the other end of the rope.

"Avalanche!" yelled Collins, and a part of the slope to my right began to fold and buckle. I gave one tremendous leap to the left and landed two feet

● Members of the expedition pose after climb—left to right, Dave Collins, Gil Roberts, Don Monk, Kermit Ross and author.



from the edge of the crevasse. I saw Don Monk fight his way clear of sliding blocks of snow and could see that Collins was above the fracture line and had us on belay.

Then I watched as our tracks disappeared and the whole snow slope began a five-thousand-foot journey to the glacier below. After a short pause, we continued down the slope which was now a glittering sheet of ice.

Five straight beautiful days carried us to 17,500 feet with almost a week's supply of food. At last we were within striking distance of the summit—and what a summit! Across a wide plateau from Camp Nine, we looked up at a huge white blade of snow, rock, and ice. Its east face was sheer and only the ridges offered some relief from the vertical. We quickly crawled into our sleeping bags. It was cold and we needed rest. Tomorrow would take everything we had left.

Darkness never came. The sun circled on the horizon and caused only a twilight high on Logan. We moved out early toward the south col and south ridge. Below us, clouds had formed in a vast gray blanket, threatening to rise and invade our domain.

In the late afternoon of July nineteenth, the five of us stepped simultaneously onto the East Peak of Logan after climbing for twenty-two days up East Ridge. It was like taking a stride into the Glacial Age. I looked down our ridge to dwindling ranges and rivers of snow and ice. Everywhere were giant peaks where great expeditions had struggled, and to the north, unexplored country of huge rivers, knife-like ridges, and tall peaks . . . most of them untouched and untrodden.

A savage wind tore at us on the summit and forced our stay to only twenty minutes. Then we moved rapidly down the ridge to arrive at Camp Nine late in the evening, Logan conquered, but the return to base yet ahead of us.

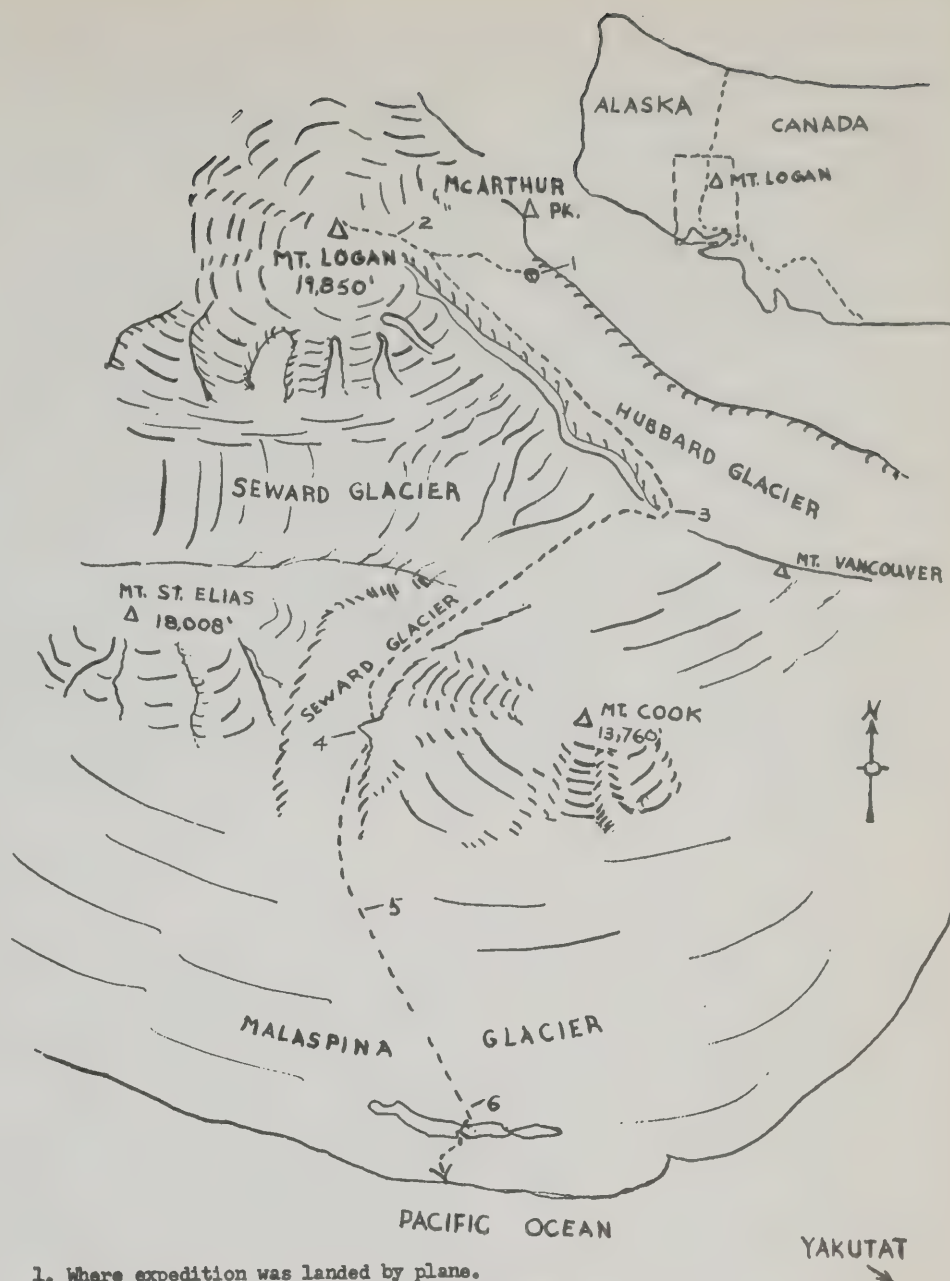
Down Through the Clouds

We awoke the next day extremely exhausted from the long summit dash and the high altitude. Our pace down the ridge was slow as we passed Camps Eight, Seven, and Six. Then storm clouds came swooping up from the glaciers below and limited the visibility to a few hundred feet. It was dangerous ground around Camp Six, for there were many crevasses and nearby was the dreaded avalanche slope that nearly carried us off the mountain before. Collins and Monk were roped together and started down the slope ahead of us through the clouds.

"Watch out for the crevasses," I warned them.

In a few minutes Gil Roberts looked down the slope and exclaimed, "Look! They're going the wrong way!"

"Turn more to the left!" I yelled, but my warning was lost in the rush and roar of the wind, then Collins and



1. Where expedition was landed by plane.
2. Dreaded avalanche slope and hidden crevasses.
3. Water Pass.
4. Point Glorious.
5. Where Dave Collins fell on the ice.
6. River crossing.

Monk disappeared into the gloom heading toward a maze of hidden crevasses.

Ross, Roberts, and I quickly shouldered our packs and started down the slope. We weaved our way around and over the crevasses, and spied Collins and Monk climbing below us.

"The route is to the left!" yelled Ross. "Yeah," answered Dave, "I see our old tracks." He took three steps to the left and vanished from the slope! I heard the rope between them go "swish" and saw Don Monk bury the handle of his ice axe into the snow and anchor the rope. Dave had fallen into a large snow-covered crevasse. We climbed down, and Kermith Ross moved cautiously forward to help the unhurt Collins out of a deep chasm with climbing rope and ice axe.

It is a long way from the summit of Logan to the sea. After climbing for so long on the mountain, we had to travel ninety miles across Hubbard, Seward, and Malaspina Glaciers.

Down the Hubbard

We loaded tents, climbing gear, and six days of food rations on our sled and headed down Hubbard Glacier. The Hubbard, over eighty miles long and emptying into the sea, contains more snow and ice than all the glaciers of Switzerland.

From the Hubbard, we turned south and climbed up through Water Pass to Seward Glacier. Here a swallow darted over our heads and then continued across the glacier. Its wayward flight



● David Collins chops his way up a sheer ridge.



● Base-camp below the ice-fall on upper Hubbard. Climb route in background.

across that desolate landscape of snow, ice and rock was a tenuous link with the familiar world we had left.

We pushed and pulled the Yak (nickname for our sledge) over the icy surface of the Seward, up and down its rolling hollows, and across its deep blue-walled crevasses.

At the head of the Malaspina, Seward Glacier flows through a narrow corridor and the pressure causes a weird landscape of jumbled formations. We found a delightful flower garden at

Point Glorious, a rock outcrop on the eastern edge of the Seward. Myriads of lupines, violets, anemones, bluebells, paint brush, and daisies greeted us. They were the first plants we had seen since leaving Yakutat a month before.

The icefall itself was a crystal wonderland of ivory arches, blue-green alcoves, and shining seracs. Commanding the view from this point is Saint Elias, 18,008 feet, the tallest coastal mountain in the world. The illustrious Italian alpinist, the Duke of Abruzzi traveled

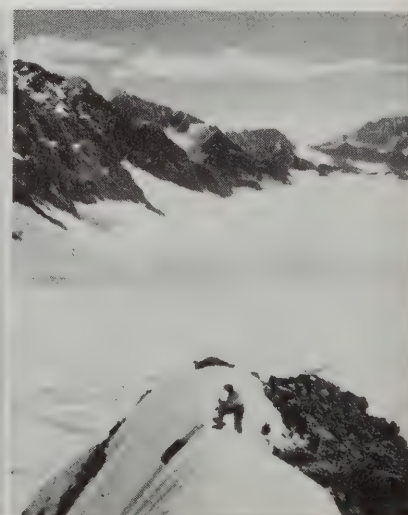
halfway around the earth in 1897 to scale this snow monarch that towers over the Pacific Ocean.

We followed along the edge of the Seward Icefall and dropped onto Malaspina Glacier. This glacier is over fifteen hundred square miles in area and looks like a vast white prairie. We made our way over hummock waves of ice covered with rocks and soil, and across hundreds of crevasses. Reluctantly we left the Yak behind on a rough stretch and loaded everything on our backs.

● Human sled dogs rest after pulling up pass joining Seward Glacier.



● Ropes and pulleys were used to haul up one sheer four-hundred-foot cliff.





● A spectacular avalanche of dry snow cascaded soundlessly off Logan.



● Gil Roberts rappelling down the sheer face of East Ridge ice sheet.

Close to the sea, we headed for a corridor of bleak moraine which extended across a string of lakes, but we found the way blocked by a large channel of water that had cut through the passage.

One More Meal

We had food for one more meal and to detour around the lakes would take at least three days. Here, our morale hit bottom, because we could hear the cry

of gulls and the roar of surf, so near was the ocean.

The next morning, after spending a dismal night on the moraine, we voted to attempt the channel.

This day was soon to give us one of the most dangerous adventures of our journey. It required eight hours to conquer that river and we accomplished it only by alternately swimming and following a hazardous route over floating icebergs. Finally, before us was the corridor of moraine, leading like

a highway to the beach and a cache of food.

After forty days of climbing in a wilderness of ice and snow, we boarded a plane for the flight to Seattle. To the east lay the sea of peaks from which we had just emerged, and shining pink in the evening sun was that great upthrust of ice and snow that is Mount Logan, second highest peak on the North American continent, its last summit once unclimbed but now another peak in the record book. ▲

● Dave Collins heads home on a "cane" with a bad shoulder sprain.

● Trek ends on beach where sands bury old Japanese shipwreck.





Photos by Anne Woods

Bleak little Shishmaref, above, on the northwest shore of Seward Peninsula, is birthplace and home of Alaska's foremost Eskimo artist. In this apparently barren land, George Aden Ahgupuk finds the subjects and materials for his unique Arctic drawings.

Artist of Shishmaref

by Anne Woods

Ten-year-old Stella, with Ahgupuk in the photo below, and the three older children show artistic talent, but would rather draw cartoons than the typical scenes of Eskimoland.



"I FELL down a mountainside and became a new man," said George Aden Ahgupuk.

We were sitting in the lounge of the Anchorage Hotel. I had just asked what it was that had turned him from the customary life of an Eskimo on the shores of the Bering Sea to life in a modern Alaska city, and to his art, which represents a high point in Eskimo culture.

He spoke with the simple directness born of a way of life that deals with the pith of a situation.

George Aden Ahgupuk is Alaska's foremost Eskimo artist, an invited member of the American Artists Group and the Grand Prize winner in New Mexico. His one-man shows are invariably sell-outs. He holds the top prizes for drawings throughout the Territory. He is entirely self-taught. But George Ahgupuk had to fall down a mountainside to develop his remarkable talent.

George was an outdoor boy of strong physique, born and reared in the lonely, wind-swept village of Shishmaref in northwestern Alaska. To look across the



The tom-cod fishing scene, above, and trapper's cabin, below, are typical Ahgupuk subjects. Lost in reproduction, however, are the warmth and fine detail of the originals, drawn on skins tanned and bleached by a process developed patiently by the artist himself. Lacking paper, Ahgupuk began drawing on skins, and continued to use them because they are right for his work.



Bering Strait was to glimpse the equally bleak shore of Siberia. His formal education was of late beginning and early termination. His interests lay in hunting, fishing, trapping and the fashioning of weapons.

The year 1930 found George a strong young man of nineteen, well experienced in the arduous but to him very satisfying pursuits of his people. Sometimes on the wet sand of the shore he would outline a hunting or fishing scene, or the pounce of bear on seal, or the snarling, tangled fight of the sled dogs. The sea would wash away the pictures. Sometimes he did idle tracings on the hard-packed snow. The never distant flurry of snow or blow of blizzard obliterated them.

There remained only the ivory miniatures, carvings from the tusks of walrus or teeth of whales, shaped in the long winter hours when families were winter-bound in their igloos. But this was not an unusual pastime. Eskimos have no written language. Their fingers record the saga of life—the drama of life and death of man and beast, the exuberance of a successful hunting or fishing incident, the joy of a full stomach. Eskimo fingers have always artfully carved and shaped driftwood, baleen, tusks, bone, skins.

One day George had a toothache, a deeply impacted tooth that sent an ache clear down his throat. He did what any intelligent Eskimo would do in this age of the white man's medicine. He hitched up his dog team and set out for Nome, two hundred miles away, and the only dentist in northwestern Alaska.

Lost Footing

It was on the return home, while hunting ptarmigan for supper, that George lost his footing on a steep hillside, to crash down onto broken boulders and lie with an injured leg.

Painfully he dragged himself back to his camp and staked dog team, and eventually to his home in Shishmaref. But Shishmaref had neither doctor nor nurse, and the healing of the injured leg did not include a mending.

For four years, with increasing difficulty, George carried on. Finally he was persuaded to go to the Alaska Native Service hospital in Kotzebue, north of Shishmaref, at the mouth of the Kobuk River.

In Kotzebue, George underwent an operation. A cast on his leg kept him a patient for six months—the six months that changed his life.

In spite of good food and attention, George was a homesick Eskimo boy, chafing at his inactivity. One of the novelties of hospital life was toilet tissue—a commodity much too precious to be put to its intended use, to George's way of thinking.

With a cheap pencil he sketched the things he knew and loved and longed for. The fine details of the animals he had hunted over the years, their living forms, the bulge of their muscles, their

expressions of fight, fear or placidity, all from the memory of close observation—observation on which depended not only the success of the hunt, but often his very life.

These pictures he drew on panorama lengths of toilet tissue.

George's nurse, Nan Gallagher, was impressed with his obvious talent and bought him paper and crayons. He made her Christmas cards and received his first money for drawing. Two dollars. When he left the hospital to return to Shishmaref, he had what was to him a small fortune, ten dollars, all from his drawings!

At home again, George picked up the weapons that were his means of livelihood, yet ever and again his mind turned to his new-found expression. But in the little Eskimo village there was no paper on which to draw.

Then he had an inspiration. There were skins! George's hunting now had a dual purpose. Meat for the family and skin for parchment.

His first experiment was with moose skin. He wanted it tanned to a certain whiteness. After weeks of careful tanning it still had a yellowish tinge. There was caribou, there was seal, there was reindeer. There was much trial and error as George experimented with skins. So much to be considered! Texture, strength, pliability. The skin of the prolific Arctic hare was thin and tore easily. A flaw in a skin was a literal blot on the landscape. Only prime skins were of value, and they had to be green and split to the last layer, and every vestige of hair must be as if it had never been.

Finally George formulated his own special process of tanning and bleaching that turned hide into a fine parchment. It would stand up to ink and to time, and was of the desired whiteness.

Sometimes a tourist would drop out of the skies. Before he took off in his little private or chartered plane, he had probably bought a George Ahgupuk picture. The small accumulation of his sketches made during the winter went out to Alaska gift shops. They were always quickly, encouragingly sold. Teachers at the Government school sent many examples of George's work to friends in the States.

George did not, however, buy paper with this money. With an artist's unerring instinct he knew he had a medium of exceptional value. His characteristic sketches of etching-like quality had a soft warmth that no paper could impart. He drew everything pertaining to Eskimo life, on large scale and epical. Imagination and humor were not lacking. George Aden Ahgupuk of Shishmaref was on his way to recognition.

It was in the late 1930's that Rockwell Kent, on an Alaska tour, came across George's work. On his return to the States he told of this Eskimo genius in glowing terms. An invitation to join

the American Artists Group resulted from Rockwell Kent's enthusiasm.

This appreciation of his unique drawings Stateside was a new incentive to the artist, who concentrated on a collection of drawings. George went to New Mexico to widen his knowledge and art, and in 1950 captured the Grand Prize with a great map of Alaska done on reindeer skin, showing animals and native people. This drawing was purchased by the First National Bank of Anchorage, where it is displayed.

Edward L. Keithahn, a former Alaska Native Service teacher at Shishmaref and now curator of the Territorial Museum in Juneau, brought out *Igloo Tales*, a collection of Eskimo myths and legends. The tales were told by the old men of the village and translated into English by George's sister, Bessie. The illustrations are by George. The book is a fine collection of his drawings, and the tales, although written for children, hold the fascination of folk lore for all.

It was at this point in his career that I first met George Ahgupuk. He came into the Westward Gift Shop in Anchorage at the moment I was purchasing *Igloo Tales*. Now, years later, on a June evening in the lounge of the Anchorage Hotel, I was listening to the pleasingly soft voice of the artist as he told of his life and his furthering career.

Far from turning his back on his people and his culture, George has become a village leader, bringing the useful from the white man's world to theirs. His wife, Kara Allockeok Ahgupuk, is a Shishmaref girl and his four children are growing up in the village of their parents. Ruth, Henry and Ralph are in their 'teens. Stella is ten. All four show artistic talent, but George confessed that they do not draw the activities of the Eskimos. They want to draw cartoons!

To be prized along with *Igloo Tales*, there is now a collection of drawings brought out by George himself. It is a series illustrating the Eskimo's idea of the history of the white man and his coming to Alaska. The succinct captions are priceless truths. The excitement and the greed attending the discovery of gold in Alaska are embraced in one pithy sentence. The housing situation in Alaska following World War II is dealt with just as concisely, in a caption humorous by virtue of its truth.

George mentioned a recent visit to San Jose, where he held a completely successful five-week exhibition of his drawings at the Rosicrucian Gallery.

While there he purchased a new type of German-made pen for sketching, and he spoke of it enthusiastically. But his medium has not changed. In the fall he hunts the moose, the caribou and the seal, as he requires about two hundred skins a year for his drawings.

So, artist and hunter remain mutually dependent. Success can not separate George Aden Ahgupuk from his people and their way of life. ▲



All Photos by Ted Bank II

The islands and the volcanoes of the Aleutian Chain reach over a thousand miles across the Pacific shrouded in fog and centuries of mystery.

The Southern Eskimos

by Ted Bank II

ESKIMOS, for most of us, are an Arctic people who live in igloos and share a perennially frozen wasteland with polar bears and sled dogs. These are the "typical" Eskimos, largely because they are the most familiar through books and pictures.

Actually, however, the Arctic-dwelling, igloo-using Eskimo is in the minority, and his severe daily existence is not at all typical of the group as a whole. The American Eskimos are a far-flung stock. They occupy the longest linear stretch of land of any people on earth—all the way from Attu island at the western tip of the Aleutians to the east coast of Greenland, a distance of more than six thousand miles. But the population center—where over two-thirds of the Eskimos live—is not in the far north at all, but in western and

Ted Bank II, Executive Director of the Institute for Regional Exploration, Inc., "found" his beloved Aleutian Islands as a weather man for the Navy in 1945. Since then, this world traveling explorer has become the recognized authority on the Aleutians. For several years he led expeditions of the University of Michigan to the foggy chain, spent his honeymoon there, is currently on an expedition to Mangareva in eastern Polynesia, but planning another Aleutian expedition in 1960. The Aleutians, says Director Bank, are "my favorite topic." The editors of Alaska Sportsman hope this will be only the first of many Bank articles in this magazine. We are indebted to the University of Michigan Alumnus Quarterly Review for the privilege of reprinting "The Southern Eskimo."

The Editors

southern Alaska along the shores of the Bering Sea, well below the Arctic Circle, and these people never saw igloos until white men introduced them from northern Canada. The southernmost and westernmost, and until recently the most populous group, are in the Aleutian Islands, only a few degrees of latitude north of Seattle, Washington. They are called Aleuts (Al-ee-oots).

The home of the Aleuts comprises a rocky archipelago of volcanic islands which are the tops of rugged mountains, largely submerged. They arise from the ocean like giant stepping stones in an arc between America and Asia and form the southern boundary of the Bering Sea. There are more than seventy islands in this archipelago, and the number of tiny unmapped, offshore islets fringing them has never been estimated.

On a map, two things are immediately impressive about the Aleutians: first, the great length of the island arc—more than a thousand miles—and second, the character of the arc—its symmetry and its unique position, like a gigantic sieve, between the stormy North Pacific Ocean and the cold Bering Sea.

A great deal has been written concerning the Aleutians, particularly since World War II, for they had to be defended against the Japanese, who successfully invaded them. Their jagged coasts, windswept rocky headlands, many active volcanoes, and dangerous offshore reefs are perhaps most impressive to mariners. But American G.I.'s were more perturbed about the weather, which universally is wet, windy, and raw. Heavy fogs envelop the islands during the summer months; squalls and violent storms called williwaws lash them in fall and winter. Because the Aleutians are situated in a semi-permanent low-pressure area, clear weather seldom lasts very long.

Climate Moderate

One feature that is largely overlooked, however, is the fact that the Aleutians are blessed with a fairly temperate climate, despite the storms. It is not Arctic at all. The same Japan Current that is responsible for pleasant weather in California also warms the Aleutians. It is seldom that sea-level temperatures go below 25 degrees Fahrenheit, even in winter, and at other times the days and nights are cool, but pleasant. Each summer, Aleutian mountain slopes and broad green valleys are covered with luxuriant grasses and colorful wild flowers. The rocky sea cliffs are home for some of the largest seabird colonies in the world. The turbulent waters surrounding the islands abound with fish, clams, crabs, and sea mammals. The Aleutians are far more habitable than their storms and rocky terrain would indicate, a fact that was recognized by the early Aleuts who reached Alaska from Asia in prehistoric times.

Russian Discovered

Our best information about the Aleuts, before they were touched by civilization, comes from Russian accounts not long after the Aleutians were discovered by Vitus Bering and Alexi Chirikof in 1741. The first explorers believed the Aleuts were akin to the natives in eastern Siberia, for they bore a resemblance to them, particularly to the Chuckchee and the Kamchadals.

Later, a few scholars derived the Aleuts from the American Indians. One bizarre theory had them coming from the so-called lost continent of Mu that was supposed to have existed where now only the waves of the Pacific Ocean roll.

Recent studies have shown, however,



Happiest children in the world are these Atka youngsters on a rare sunny day, cowboy boots, sailor suit and all.

that the Aleuts are undoubtedly Eskimos—physically, culturally, and linguistically—despite certain dissimilarities which had caused earlier scholars to consider the two as being from different stocks. The Aleut language at first did not appear to be mutually intelligible with Eskimo. But this is only a superficial difference, and linguists have since found many basic word and structural similarities, indicating that both Eskimo proper and Aleut-Eskimo stemmed from

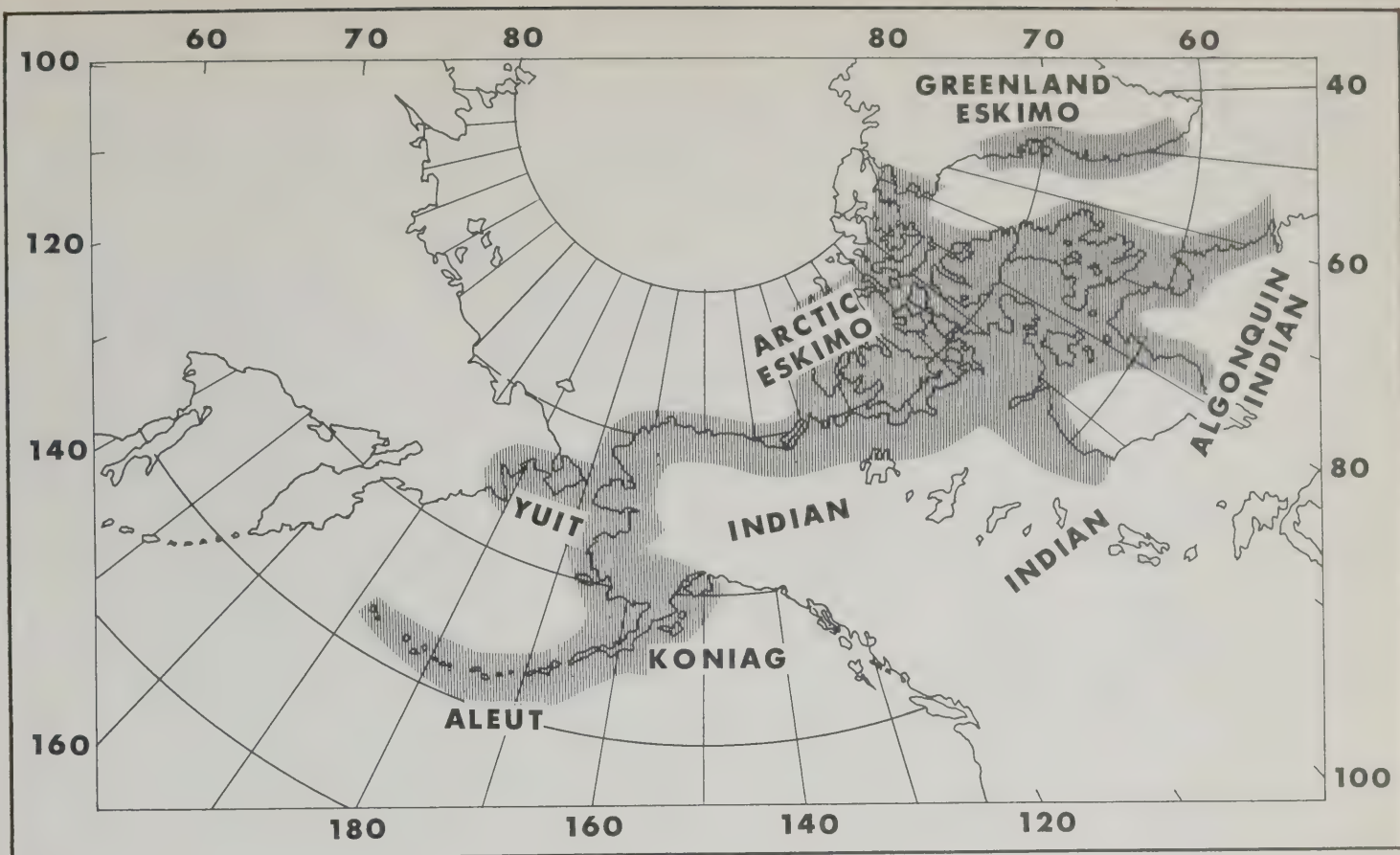
a common proto-Eskimo language family.

Physically, the Aleuts are very much like the Bristol Bay Eskimos in southwestern Alaska. The relationship tends to be obscured as comparisons are made between Aleuts and Eskimos living farther apart, which may be due in large measure to the profoundly different environmental influences affecting the more widely separated groups.

Culturally, the Aleuts possessed such

Every summer, as in centuries past, the Aleutian Eskimo family heads for its traditional fishing grounds.





typically Eskimo traits as open-sea hunting, kayak-like skin boats, gut clothing, harpoons and other implements made of sea mammal bone, seal-oil lamps, stone knives, ivory needles with eyes, labrets, circle-and-dot design, and many others. Archaeological evidence indicates that Aleut culture was "more Eskimoid" during the earliest period in the Aleutians, whereas later important differences evolved, undoubtedly because of the peculiar environment in which the Aleuts found themselves and because of cultural stimulations they received from Indian tribes living in southeastern Alaska. Possibly a few additions to Aleut culture even came directly from Asia, although the evidence for this is far from satisfactory.

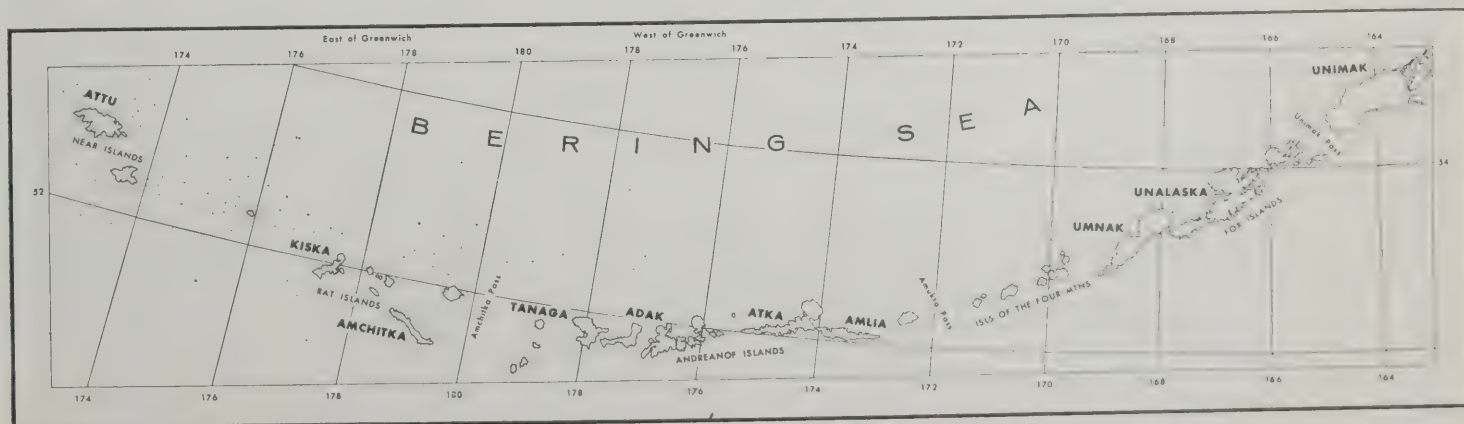
The Aleuts were primarily sea-mammal hunters who lived on the flesh of seal, sea lion, and whale, supplemented with birds, fish, roots, and berries. Nothing edible or usable was ever wasted. For example, when a dead whale was brought ashore, the Aleuts used not only the meat and blubber, but the ribs and mandibles were employed in the construction of dwellings; the smaller vertebrae served as seats, their epiphyses for plates.

Nothing Wasted

Other bones were made into harpoon heads and daggers. The intestines were used for waterproof rain parkas and bags; the sinews served for thread and cords; the shoulder-blades were used

for tables or seats, and even as a sort of covering or loose "coffin" for human burials. Whale fat gave light and heat; whalebone fibers served for decorations for mats and baskets, and the teeth of the killer whale, as well as the denser pieces of bone, were carved into ornaments, needles, and arrowheads.

The relative absence or abundance of certain resources determined some of the important cultural differences between the Aleuts and the northern Eskimos and Indians. For example, a lack of flint in the Aleutians was responsible for the relative crudeness of many Aleut stone tools; want of clay no doubt accounted for the absence of pottery. Because the Aleutians are treeless and the only source of wood is driftwood, the



Aleuts never built large wooden structures as did some of the Indian tribes, and since walrus seldom venture into the southern part of the Bering Sea, the Aleuts were unable to collect ivory in large quantities for carvings and weapons as did the Eskimos farther north. On the other hand, the Aleutians are blessed with luxuriant vegetation, which the Aleuts utilized for food, medicines, and poison that are unknown among the northern Eskimos. Furthermore, the Aleutians are not restricted by sea ice every winter as in the Arctic coast, so the Aleuts did not have to depend upon dog sleds for transportation. Most of what they needed for daily living could be found throughout the year in the waters surrounding their islands, and because of this they became adapted to living primarily on the margin of the sea, or else out upon it in their marvelously seaworthy skin boats called *bidarki*.

The Aleuts surpassed all of their neighbors in manufacturing exquisite grass matting, colorful baskets, and beautifully decorated wooden headgear. Basketry reached its highest development among the Attuans, the farthest westward Aleuts, who wove with strands of wild rye grass (*Elymus mollis*) and beach pea (*Lathyrus maritimus*). They also made intricately fashioned grass capes, as well as grass mats which were used for wrapping corpses before they were placed in burial caves. Designs were woven into the fabrics with fibers dyed in octopus "ink," ochres, and vegetable stains, or with small feathers and colored strings of gut.

For hunting and in warfare, the Aleuts used a throwing stick, with which they propelled barbed bone darts. They had wooden and bone clubs, and protected themselves with decorated wooden war shields and with armor made of vertical, narrow wooden slats united with sinews. They used chipped-stone axes, scrapers, knives, drills, pots and lamps, and hammerstones, as well as a large variety of chipped-stone points for tipping bone arrows and war lances.

Bones Useful

The bones of sea mammals were used for everything from house rafters to pins worn as ornaments through the septum of the nose. Aleut spoons were nicely made from the breastbones of ducks. Bone wedges were used for splitting driftwood, and the Aleuts had intricately carved two-piece bone fish-hooks. Weapons made from bone included poniards or stickers, long knives, clubs, spear foreshafts, dart heads and many kinds of arrow points. Detachable war-lance heads were ingeniously made from whalebone that was barbed and grooved for inserting sharp stone points. The length of this compound piece exactly corresponded to the distance between a man's chest and spine, so that when the stone point pierced the back-

bone, the bone head would break away from the wooden shaft and remain in the body, impossible to pull out.

Whereas the Arctic Eskimos depended on heavy fur skins for warm clothing, the Aleuts' primary concern was keeping dry. They relied upon gut of sea mammals and bird skins for fashioning unique rain parkas called *kamleikas*. They also used gut for translucent windows in their semisubterranean houses, and for manufacturing beautifully decorated sacks and bags. Seal and sea-lion bladders or stomachs served for storing fat, as floats for preventing wounded sea mammals from sinking, and as markers. Russian accounts tell of the interesting manner in which Aleut hunters "blazed a trail" when paddling their boats out of sight of land. They used whitened sea-lion bladders, to which they tied a long rope and stones, dropping them over the side at intervals so they could see from one to the other.

The Aleuts believed that light was the life-giving source and that the full period of daylight should be spent awake. Thus they arose with the dawn. Running water was a source of strength, and sea water was thought to be even more beneficial. They bathed in the sea before all special events and during crises. Even newborn babies were dipped in the surf no matter what the time of year, for thus their physical stamina was supposed to be insured.

The Aleuts were great warriors who prided themselves on their bravery. But perhaps their finest achievements were as seamen and navigators. It was not uncommon for an Aleut hunter to paddle steadily for days, resting upright in his kayak when tired, and brigades of hunters often searched the stormy seas for hundreds of miles, lashing their skin boats together in order to ride out storms that caught them far from land.

Lookout Sites

When building a village, the prehistoric Aleuts usually selected a narrow isthmus, a neck of land, or a promontory between two bays. This was apparently so they could carry their skin boats from one body of water to another in case of attack. Their underground dwellings were much like traps, for the only exits were narrow openings in the sod roof. Near every village was a high place called an *agi'sax'* where lookouts were posted to watch for enemies. Here, too, hunters kept track of the movements of sea mammals, and women and children scanned the horizon for the return of the hunters whom they usually greeted with songs and dances. After the Russians had subdued the Aleuts and put an end to intertribal warfare, however, the villages were moved to river mouths, where the populations were consolidated for easier control.

Today, abandoned sites often remain as imposing mounds, some of them more

than thirty feet high, whose archaeological deposits include both midden materials and structural remains of underground houses. Sometimes the cultural levels are interspersed with volcanic ash and humic layers, indicating intermittent occupation of the sites. The middens are formed from thousands of individual trash piles, which show up in the profiles as corresponding lenses of sea urchin and clam shell, compacted fish bone, snail shells, sea-mammal bones and vegetable material—food remains of the Eskimos who inhabited the area at an earlier time. Archaeologists sometimes have difficulty interpreting the complicated stratigraphy which is made worse by the large variety of artifacts that often come from a single excavation.

Early Theory

The first extensive archaeological work in the Aleutians was done by an American naturalist, Dr. William H. Dall, who published his work in 1874-80. He concluded that Aleut culture extended through three periods, dominated, respectively, by three different types of food economy, namely littoral, fishing, and finally hunting. His thesis was later challenged by the anthropologist Waldemar Jochelson, who excavated in the islands and became convinced that it was impossible to delimit any strictly defined periods in Aleut prehistory.

The most extensive archaeological work was conducted by Dr. Ales Hrdlicka of the Smithsonian Institution in 1936-38, although unfortunately his collections are less useful than they might be because of his failure to keep exact field notes. He brought back hundreds of Aleut skeletons, which he proceeded to sort into two types based upon morphological differences—one type having distinctly broad heads and the other, comparatively long heads. From this he inferred that there had been two migrations of physically distinct people, the first composed of long-headed "Pre-Aleuts" who were followed a thousand or so years later by the "Aleuts." Unfortunately, he could find no accompanying change in culture with the arrival of the later people and this puzzled him.

Other Studies

Since World War II, other studies have been conducted in the Aleutians by the writer of this article and by Dr. William S. Laughlin, now at the University of Wisconsin. One of the more important contributions stemming from Dr. Laughlin's work is an indication, by means of blood typing, that the Aleuts are in fact Eskimos. He also corroborated Hrdlicka's discovery of two physical types and showed that the distinction exists in the living population as well—the long heads being predominantly from the western Aleutians and the broad heads from the east.

Radiocarbon dating of midden deposits in the Aleutians has given startling results. The early Aleuts appear to have been among the first Eskimos to arrive in North America. They reached the Aleutians at least 3,000 years ago and by 2,400 years ago they had already begun to occupy the westernmost islands. We also have evidence to show that they arrived at a time when the Aleutian climate was colder than it is today, judging by remains of old pollen intercalated between ash strata near Aleut village sites.

Regional Differences

Modern students of Eskimo prehistory recognize that there was considerable cultural diversity throughout the Eskimo region, and particularly this was true among the Aleuts. These southernmost Eskimos were remarkably inventive. Rich resources and isolation, once they had settled in the islands, tended to stimulate their genius for new ideas, and Aleut culture became broken up into regional patterns, each somewhat unique. People at opposite ends of the archipelago should have developed dissimilar cultures if for no other reason than because of the great distance, almost a thousand miles, separating them during most of their history. Certain islands or island groups seem to have been local centers of cultural development, including political development, and new ideas emanating from them spread to various parts of the Chain and to the mainland. There were probably frequent contacts among many of the villages, as for example when war parties conducted raids to steal wives, and during trading missions, but in some areas the people apparently were more isolated. This was especially true in the western Aleutians where great expanses of water occur between islands. This further encouraged the breaking up of Aleutian culture into regional patterns and Aleut language into separate dialects. For example, at Agattu and a few other places in the western Aleutians the people began to manufacture long, narrow, chipped-stone lance points which apparently never reached the eastern islands. They also made fish-line sinkers from large, round beach cobbles by partially or entirely grooving them around the middle, whereas the eastern Aleuts usually made small sinkers from flat cobbles.

Mummies

Other differences were more spectacular. For instance, the eastern Aleuts, but apparently not the westerners, began to mummify their dead and this practice developed into an important cult, parts of which seem to have spread to the middle Aleutians and as far as southeastern Alaska. To prepare a body for burial, the viscera and other internal organs were removed through the

pubic region, or from a hole in the chest, and the body cavity was stuffed with dry sphagnum moss. Chiefs and wealthy persons were given special treatment in which the skin was rubbed with grease rendered from human brains and other internal parts—a kind of preserving process. The corpse was then wrapped in exquisite grass-woven matting, bird-feather coats or furs, and bound into a mummy bundle, which was placed in a volcanic cave or other rock shelter. Many of these burials were put in caves a thousand or more years ago, yet the bodies are still well preserved. Some of them are in lifelike positions, although tightly bound, seated in skin boats facing out to sea. Others were suspended from cave walls by thongs under the arm pits. Frequently, the possessions of the deceased were placed with them, and apparently slaves were sometimes killed and entombed with their masters.

Origin a Question

The question arises as to where the Aleuts originated. We must deal largely with speculation, for our studies have only just begun to reveal the details of their existence once they reached the Aleutians. Their wanderings previous to this are not known. Archaeologists feel confident, however, that the Aleuts were part of an ancestral Eskimo migration in Alaska. It is generally assumed that the first Eskimos entered North America from Siberia via Bering Straits. This region undoubtedly experienced a more or less continuous ebb and flow of cultural and genetic increments from Asia. When the early Eskimo people crossed the Straits, perhaps five thousand years ago, they apparently fanned out eastward along the Arctic coast and southward along the Bering Sea coast, ultimately reaching Greenland and the Aleutian Islands. The Aleuts may have been one branch of the group that went south. The eastward-moving contingent may have become the Dorset Eskimos, who are now extinct. Following the initial invasion of Bering Straits by Eskimo-like people, who then moved onward, residual Eskimo populations developed sequences of culture in this region and provided a stimulus for new movements of people eastward and southward. All the while, additional innovations were being added from the Asiatic side to the cultural beachhead at Bering Straits.

Hrdlicka Belief

Dr. Hrdlicka believed that two distinct migrations of people entered the Aleutians at widely separated intervals of time, although archaeologically there is no real proof that two different cultures are involved. Some anthropologists have concluded from this that the "later Aleuts" must have possessed es-

entially the same kind of culture as the "Pre-Aleuts" who preceded them by a thousand or more years.

There is, however, another explanation for the presence of two human physical types in the Aleutians. It is possible that they represent different parts of the initial population that spread out along the Aleutian Chain more than three thousand years ago and became separated geographically. It was a human chain whose links were not all joined. The ends were comparatively isolated from one another, and, during the passing of many centuries, they may have developed along diverging lines, physically as well as culturally and linguistically. This could happen by gene drift or just through the accident of certain populations being descended from small, nonmedian, inbred migrating groups, perhaps family groups, whose physical traits would have been carried down to their descendants simply because of the prevalence of certain genes. Such groups may possibly have been too small to be genetically random samples.

Later, differences in their physical characteristics may have been effectively increased through more frequent mixing between eastern Aleuts and mainland groups than was possible for the isolated western Aleuts. Archaeological evidence points to the fact that cultural impulses emanating from northern Alaska reached the eastern Aleutians repeatedly, becoming stronger in later times, and undoubtedly these were accompanied by a dribble of new human genes. Local strife, geographic isolation, and severe climate created temporary barriers to the spread of culture westward, whereas warfare and slave capture between certain groups who became traditional enemies served to mix genes in the eastern part of the Chain. Thus small eddies became established in the main current of cultural trading across the Aleutians, eddies which tended to break up Aleutian culture into geographical entities that developed along slightly divergent lines.

Destruction

Once the Aleutians were discovered by the Russians, however, the Aleut population as a whole—both eastern and western—faced a devastating change. Their way of life was altered swiftly and radically. When the Bering Expedition returned to Russia in 1742 to tell of vast herds of fur animals in the North Pacific, a stampede began that almost equalled the great Klondike gold rush a little more than a century later. Adventurers, thieves, exiles, murderers and princes alike left their homes to organize fur expeditions. A tide of greed and cruelty swept across the Aleutian Chain, and for the Aleuts, an era of bloodshed and despair was ushered in.

They resisted, but their numbers were never great enough to give them an advantage over the Russians with their superior weapons. Whole villages were wiped out, and those whom the Russians did not kill outright soon fell prey to epidemics of smallpox, measles, and pneumonia. In little more than two hundred years, the Aleut population has

dwindled from about 20,000 to less than 1,000 persons. And despite efforts by our own Indian Service, this decline is continuing.

It is a picture that is all too familiar to anthropologists: a once-hardy, populous group, admirably adapted physically and culturally to a rigorous environment—now impoverished, diseased,

and spiritually weakened, their numbers alarmingly reduced and their former culture all but destroyed. The story of the Aleut might serve as a lesson to us, but it is a lesson that comes too late for our southernmost Eskimos. The Aleut seems likely to follow the Dorset Eskimos to extinction before our very eyes. ▲



..An Armchair Journey to Alaska

By Robert A. Henning

We who write of the Alaskan scene are prone to superlatives, but the very physical vastness of our 49th state, its great beauty, and its great promise make any other treatment of the subject impossible.

We know it to be the largest, the farthest north, the farthest west, of all our states. We know it is a land which has produced vast wealth and yet has been literally untouched.

We know this land also as perhaps the most beautiful land on earth, with the greatest glaciers and the greatest peaks in North America.

We know, also, that our land, vast as it is, and as rich as it is, still supports only a meager population and that much of our wealth will be realized only in the dawn of an eventual "tomorrow."

To know these things as one who lives in this land is a physical experience we would like to share. The very vastness of the country and the magnitude of its promise is a thing that once experienced is never forgotten.

Unfortunately, it is a difficult land to describe. It is hard to give the student of Alaska (and many Alaskan residents) a full conception of just how vast the land really is, and to understand the feeling of a "great tomorrow" it is primarily necessary that one have a grasp of the physical geography of Alaska. To "know" this physical geography of Alaska is, in a large measure, the touchstone for acquiring "the feel" of the country—to understand why Alaskans, wherever they may be, are so frequently willing to "go on for hours" in praise of their country.

Strangely enough, although literally tons of material have been written on the Alaska subject, few readers come away from their studies with anything approaching a well-oriented conception of Alaska's physiography.

Ever since the days of sixty years back, when the magic word "Klondike" swept the world and captured the imagination, "Alaska" has been a vague land of great size whose descriptions by various writers have been as varied as those of the proverbial blind men and the elephant.

Thus we have felt that in this edition of Alaska's magazine commemorating our advent into statehood, we could do no better than to try once again to more properly describe the way our land appears to us in hopes that you may better understand it.

To that end we are going to take you to a class on Alaskan geography in the following pages. We are going to supply you with a few rudimentary maps, break the major geographic areas into a few simple sub-areas, and in describing these areas, in order to keep you properly oriented, travel first clear around the perimeter of Alaska.

In so doing, we will begin tracing the Alaska coastline on one side of the Pacific Ocean and travel clear across its northern rim to Asia. We will travel from the temperate to the Arctic, following this coastline, and it is our intent that you will "see" the towns and the people as you go. When we have circled Alaska, then we will examine the land within the circle.

First let us begin in the vicinity of Seattle in the



ARCTIC CACHE



arctic cache

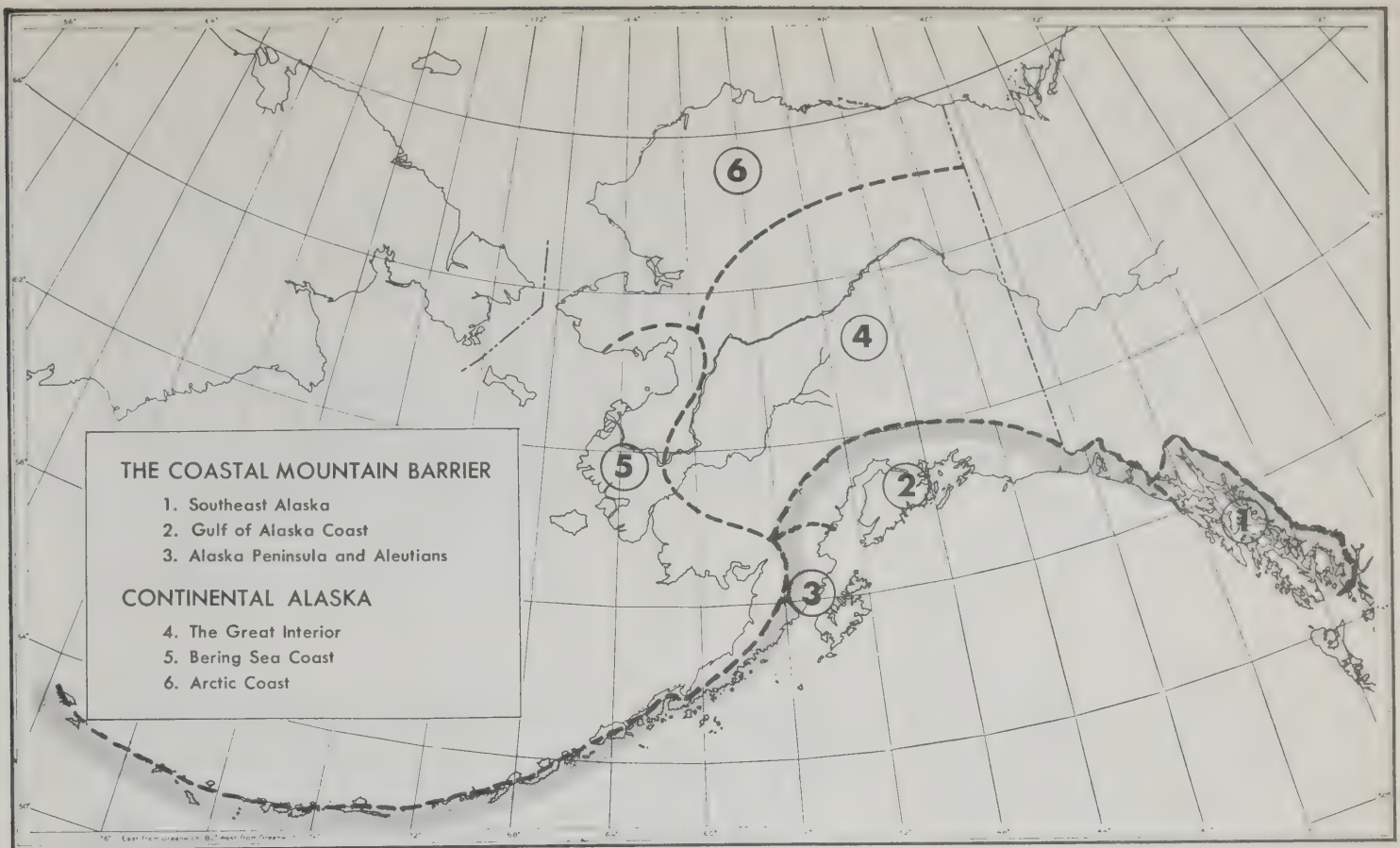
Set your big cache near the Circle
On sound timbers, seasoned and dry;
(There's a Bear just over the skyline
With savage, cold hate in his eye.)

Build that big cache near the Circle
Rat-proof, tight-roofed and stout
(Plan it with one idea only:
To keep that grudging Bear out.)

Supply that big cache near the Circle
By cargo plane, bush plane and jet—
(The steady drone of their engines
Is hard for a Bear to forget.)

Fill that big cache near the Circle
With everything keen hunters need
(The Bear will come over the skyline
When his caution is drowned by his greed!)

J. C. F.



Pacific Northwest and travel roughly 500 miles north and west through the islands and along the mountainous coast of British Columbia to our first Alaskan soil.

Now we have arrived at the eastern end of Alaska at the point nearest the continental United States. Here begins a long curving mountain barrier that flanks the coast almost to Asia itself in a great arc across the North Pacific.

This arc constitutes one of the two basic physical components of Alaska—the Coastal Mountain Barrier. The other basic segment of Alaska is Continental Alaska, which sits atop the middle portion of this arc and behind the mountains.

Each of these main areas of Alaska breaks into three sub-areas. The Coastal Mountain Barrier includes Southeast Alaska, the Gulf of Alaska Coast, and the Alaska Peninsula and Aleutian Islands—the islands and the peninsula, for our purposes, being lumped as one integral unit.

The Coastal Mountain Barrier is long (over 3,000 miles in its arc), narrow (not to exceed a hundred miles in width), and a more or less contiguous string of mountains and islands. In actuality, this mountain barrier is a continuation of the coastal range which has its beginning at the lower end of South America.

In Southeast Alaska, the general mountain level on the mainland is around 6,000 feet, lowering to 3,000 feet or less among the islands, and exceeding 10,000 feet in a few spots along the border with Canada. These mountains support a vast ice field and glaciers of all types and sizes are seen. Deep fjords have been carved in the mainland barrier by these glaciers. Scattered profusely along the shore of this fjord-gutted and glacier-capped mountain mass are scores of heavily forested islands interlaced with a myriad system of waterways protected from the open Pacific.

This is temperate climate country with the moder-

ating influence of prevailing southwest winds from the sea. Rainfall is moderate to heavy. People of the area derive a large measure of their living from fish and from timber. Shorelines are generally steep and towns cling to narrow beach areas. There are no inter-connecting roads between any major Southeast Alaska communities, and there are no "Interior" towns. All are on the beaches.

Major communities are Ketchikan, Wrangell, Craig, Petersburg, Juneau (the capital city), Sitka, Haines and Skagway. Largest population is Juneau's, with approximately 10,000 in the area.

About three hundred miles north and west of Ketchikan, Southeast Alaska is left behind and, still skirting the Coastal Mountain Barrier, we begin to enter the Gulf of Alaska Coast zone.

On leaving Southeast Alaska and its myriad islands, we travel for two hundred miles along a coast that is without islands and open to the sea. Here a ten to fifteen mile strip of coastal plain separates the ocean and the main mountain mass which has now begun to increase in height. Glaciers become bigger, the snow-fields larger, and many peaks begin to lose themselves in the clouds.

Where the barrier begins to lean more strongly in its westward swing, the mountains reach a collective height greater than any other mountain mass in North America. Mt. St. Elias, one of these peaks, towers over 18,000 feet. Mt. Logan, another, on the Canadian side of the barrier, reaches almost to 20,000 feet.

At this point, the Gulf of Alaska Coast swings sharply westward. Green forested islands reappear and more fjords and more glaciers. In "the hook" of this westward turn of the barrier, prevailing ocean winds are caught in what weathermen call a "perfect rain trap." If moisture laden winds are forced high enough and chilled enough they inevitably reach a



condensation level. The mountains of the St. Elias system effectively trap the ocean winds and force them to condensation heights. The effect is as though the mountains were squeezing a giant water-filled sponge. Latouche, in the center of this rain-trap area, has annual precipitation of over 200 inches a year, but fortunately other communities in the area do not have such staggering totals, and as you proceed westward along the barrier, both mountains and rainfall diminish.

The economy also is beginning to change. When you have reached Seward, Southeast Alaska is 500 miles to the east. At Cordova, about 150 miles east, men mostly make their living from fishing, although once the community was the gateway of the famous Kenecott Copper district. At Valdez, about halfway from Cordova to Seward, the Richardson Highway meets the sea through a high and narrow mountain pass and transportation has been added to the fishing economy.

At Seward, fishing also plays second fiddle to the transportation industry, for here Alaska's only railroad joins Interior Alaska and the sea through another mountain pass, but you are still following the beach along the mountain barrier and towns are relatively small.

Leaving Seward, whose surrounding terrain is much like that of Southeast Alaska's, with glaciers, fjords, and mountains in the three to five thousand foot range, you suddenly round the end of Kenai Peninsula and enter Cook Inlet, leaving behind you the land of glaciers and fjords.

Passing Seldovia, another fishing community, you come to Homer and the wet spruce country is behind you. The mountain barrier is yet to your right, but the shoreline becomes a succession of grassy benches. The coniferous forests thin, and birches and cottonwoods begin to show. This is the land of the homesteader.

After Homer you pass other communities in the Kenai Peninsula homestead country—Ninilchik, Kasilof, Kenai, and others.

At the head of Cook Inlet you reach the great, sprawling, busy city of Anchorage, biggest city in Alaska with a population now estimated at around 65,000. The city is laid out in neat squares on a relatively flat plain behind the high, sandy bluffs. Everywhere there is a scurrying of men and machines, building great military bases, new homes, new roads, and new subdivisions.

Alaska's railroad, which first met the sea behind the mountains to the south, now runs past the head of the inlet, and from Anchorage reaches northward into a great valley system opening the first major gateway through the coastal barrier.

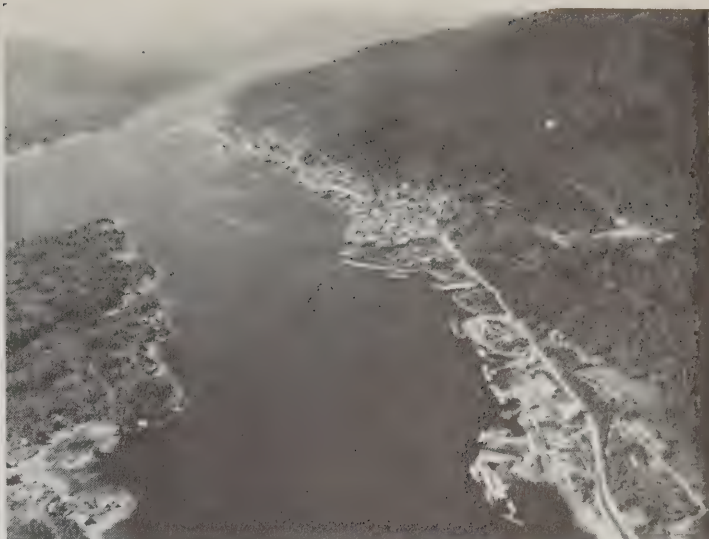
In this valley of the Susitna and the Matanuska are the settlers of the famed Matanuska, of Palmer, Talkeetna, and other communities. The warm, dry air of the Great Interior draws down the valleys to tide-water and the moist coastal climate is a memory. Here men till the soil and things grow prodigiously in the long summer sun. Increasingly the forests of birch and cottonwood crowd out the spruce, although the conifers still leave their darker swatches of color on the landscape.

But let us leave this gateway for the moment, and swing south again on the western shore of Cook Inlet, following the now-continuing Coastal Mountain Barrier on a new tangent. From here on to the Aleutians the barrier will trend to the south with a westerly leaning. For a distance of around a hundred miles, the mountain barrier holds to its form of great peaks and glaciers. This part of the barrier is a southward extension of the Alaska Range that is soon to lose itself in a new role. Suddenly the mountain character changes.



Douglas

Photo by J. Malcom Greany
Juneau



Ketchikan

Ketchikan Chamber of Commerce



Wrangell

Alaska Coastal Airlines



Petersburg

Alaska Coastal Airlines

At the root of the Alaska Peninsula, just west across the entrance of Cook Inlet, the glaciated peaks drop off to a lower level. The robes of spruce trees diminish appreciably and sullen plumes of smoke begin to appear at the eroded mountaintops. This is the beginning now of the Alaska Peninsula and a succession of volcanoes that will continue all the way out the Aleutian island string almost to Asia.

Rank-growing grass flanks the slopes of the barrier. It is green at the height of summer, sear and brown in empty desolation through much of the year, white and barren in winter. The coastline is ragged, varying from jagged cliffs to open shoaling bays.

A new weather factor begins to dominate the senses. Iliamna Lake, a great lake lying athwart the peninsula here, is said to mean "home of the winds,"

and it is understandable. Wind-chargers for the light plants of the scattered cabins of trappers and fishermen whirl constantly, their spinning blades setting up an almost ceaseless grumbling, and a shaking of sheet iron roofs. We will know these winds from here on to the end of the island chain. Only infrequently will they cease, and often they will be violent.

Before we proceed farther down the thinning point of the Alaska Peninsula let us look back to the west for a moment. Here, some eighty miles to sea, lie Kodiak Island and Afognak Island, together with a cluster of lesser islands. These islands, enjoying a mild climate tempered by the surrounding waters, give you an opportunity to actually see the borderline between the Gulf of Alaska Coast country and the Alaska Peninsula-Aleutian Islands zone.

Afognak, to the north of Kodiak on a line to the end of the Kenai Peninsula, is heavily covered with spruce. The northern end of Kodiak Island is also well tree-covered in spots, but almost at the town of Kodiak itself, about halfway down the island, the tree country becomes grass country. From here to Attu you will see few trees.

Southward again along the mountain barrier of the peninsula, the higher peaks become scattered, frequently a perfect volcanic cone rearing above its fellows, spouting smoke, sometimes a ragged-topped volcano whose top in eons past has been shattered by some cataclysmic upheaval from the bowels of the earth.

Villages are tiny and far apart. The Aleuts, and few whites, are for the most part fishermen and trappers. Once there was a great cod fishery here, but world



Haines

Mac's Foto, Anchorage



Skagway

Dedman's Photo Shop



Sitka Chamber of Commerce, The Photo Shop
Sitka



Tenakee

W. E. Hixson

economics dictated that these codfish could no longer compete with the cod of other areas. There was once profitable fox trapping, but economics have also brought this industry to a veritable standstill.

Here and there men are making attempts to build herds of sheep and cattle which forage on the lush grasslands, but markets are far away.

At the end of the Alaska Peninsula, you are 700 miles southwest of Anchorage, but yet almost a thousand miles from the westward end of the Aleutian Islands chain. The wind and the fog and the volcanoes continue.

You pass Unalaska, the small settlement across the bay at Dutch Harbor, the big World War II Navy base where the first Japanese bombs fell. Then tiny settlements of Nikolski and Atka and you are at the "end of the line" for community settlement.

Some four or five hundred miles west of Unalaska is the Navy base of Adak, and another four hundred miles beyond that is Shemya, where commercial airlines refuel on the Tokyo run. On the abandoned battlefields of Attu Island you have reached the most western bit of American soil and the southwest "tip" of Alaska. The southeast tip of Alaska, at Ketchikan, is over two thousand miles behind you to the east. Russian islands are only two hundred miles to the west.

Let us return to Unalaska, pass through the mountain barrier into Bering Sea and continue to follow the Alaska coastline, up the Bering and into the Arctic.

With the Coastal Mountain Barrier now on our right, or easterly hand as we proceed up the "back side" of the Alaska Peninsula, we soon are in the southerly limits of the Arctic ice floes

which each winter flood down through the Bering Straits and cover a wide portion of Bering Sea until spring.

Along the shore, which is a flat grassy plain reaching back to the volcanic peaks, a succession of fishing villages begins, while some 200 miles north and west of Unalaska in the middle of the Bering lie the great seal islands of the Pribilofs. Here the Aleuts of St. George and St. Paul, together with the Government's contracted fur workers, annually crop the seal herds under international treaty for the fur salons of the world.

We follow the coastline and begin to enter Bristol Bay, the sockeye salmon "capital" of the canning industry. We pass Ugashik, Egegik, Naknek and Dillingham. Large valleys reach back from the coast. The valley of the Nushagak River, which enters the head of the bay at Dillingham, reaches back into



Anchorage

Mac's Foto Service, Anchorage



Palmer

Mac's Foto Service, Anchorage



Seward

Mac's Foto Service, Anchorage



Seldovia

A. P. Bloch

the heart of the Alaska Range for over a hundred miles. The mountains flanking this valley on the north are a finger of the Alaska Range which reaches to the Bering Sea west of Bristol Bay at Goodnews Bay, where men with dredges mine the bulk of American platinum production. The coastline, which had swung sharply west at the head of Bristol Bay, now trends northerly into the estuary of the big Kuskokwim River. Now you are entering Eskimo country.

You pass villages with almost unpronounceable names — Quigillingnok, Quinhagak, Eek, Napaskiak, and you have, without knowing it, entered the Kuskokwim River itself.

Fifty miles from the sea proper you come to Bethel where the river has all the "two-banks" appearance of a river, but the tides of the ocean still rise and fall. Far to the southeast the mountains of the Alaska Range loom hazily. Up-

stream is the opening valley of the Kuskokwim, almost 500 miles long. To the north and west stretches a flat sea of tundra dotted with hundreds of lakes and ponds laced by a thousand "rivers" that appear to be dead, they move so slowly. For 250 miles around the bulge of the coastline, to the west, then north again to the mouth of the mighty Yukon River, you will be in the delta of the two big rivers.

The flatness of the landscape is almost unbelievable. A lone Christmas tree standing on a six-foot hummock ten miles away can look like a skyscraper. Everywhere there are countless flocks of waterfowl, for this is the greatest nesting ground in North America.

Skirting the flatlands of the Kuskokwim-Yukon Delta we pass the isolated Eskimo villages of Nelson Island and Nunivak Island, Hooper Bay, Scammon Bay, and the many other sod-hut vil-

lages of the Yukon estuary system. The horizon is almost unbroken by other than the far remnants of ranges emanating from the Great Interior. This is the country of Eskimos living a life they have lived for centuries. Reindeer herds graze on Nunivak Island and a few remnants of earlier Eskimo herding attempts wander in the desolation of the delta. There are few white people—occasional traders, school teachers, civilians building remote radar stations, the enlisted men manning them, and here and there a lonely missionary.

At St. Michael, at the mouth of the Yukon River, where a flotilla of ships disgorged men for the Klondike and other early gold fields, old buildings and shipways have all but disappeared. A few cannery and salters of king salmon pack a limited number of fish, the farthest north operation of the American salmon industry.



Homer Spit

Mac's Foto Service, Anchorage



Kenai

Mac's Foto Service, Anchorage



Kodiak

Alf Madsen



Glenallen

Mac's Foto Service, Anchorage

Past the Yukon, low lying mountains show again a few miles back from the still-flat coastline. You pass Unalakleet, another Eskimo village, where surprising gardens grow in one of the rare places where the Eskimo shows an interest in the white man's ways of tilling the soil. The sun here at this latitude hardly sets in summer and the long daylight urges various vegetables to modest success.

Norton Sound is next, a small indentation of the northern Bering at the base of Seward Peninsula, and again more low mountains mark the landscape. Here the economy of the Eskimo has undergone a change. The hunter-fisherman-trapper subsistence economy here includes seasonal work in nearby gold placers. The sod-house villages of the Yukon delta country have become more substantial. The wooden frame houses rise higher from their sod-bank-

ings, but still the empty tundra is only infrequently marked with stunted tree growth along the river courses.

Finally, turning westward to near the end of Seward Peninsula, the Bering Sea Coast approaches its northerly limit at the still-busy gold camp of Nome. Much of the gold has been mined, and the exposed beaches are no longer black with struggling miners. A few great dredges still leave their barren gravel piles behind them and here and there in the hills men still turn giants (hydraulic hoses) on the ever frozen muck in search of gold.

Nome is America's farthest west and farthest north "large" city. Siberia is just over the horizon. Here it might be said the Arctic Coast begins, although the end of Seward Peninsula is a few miles yet to the north of Cape Wales, beyond the port of Teller.

At Wales, on the high bluffs of the

low mountains which here reach again to the sea, Eskimos of legend fought invaders from the west and the stone breastworks they built to defend themselves may still be seen. A few miles to sea, tiny Little Diomed Island of Alaska is less than three miles separated from Big Diomed of Siberia, and the Eskimos of each island (who used to visit each other) watch one another suspiciously now through field glasses.

From Wales, the shore of Seward Peninsula runs east again, past other Eskimo villages to the head of Kotzebue Sound and a major village. This is Kotzebue, another Eskimo and White Man village where men build radar stations, mine more gold, and hunt and fish. The shoreline here is still flat, but the mountains again approach closer and their mass increases. We have crossed the Arctic Circle, just below Kotzebue, and we are beginning to skirt



Sand Point

Andrew Gronholdt



Unalaska

J. E. Caldwell



Atka

Ted Bank, Jr.



Dillingham

Mac's Foto Service, Anchorage

the western fringes of the Brooks Range which crosses northern Alaska from west to east, forming a northern boundary for the Great Interior.

North again, past Kotzebue, past the mouth of the Noatak River, the village of Kivalina and the village of Point Hope, we enter the true Arctic. The Noatak's thin ribbon of stunted spruce huddled along its banks are the last significant trees we will see.

North of Point Hope, the mountains make their last assault on the ocean. Coal seams appear on the cliffs where the sea birds wheel in white clouds. Until mid-summer the Arctic Ocean ice pack lies against the cliffs in a jumbled mass. Then the cliffs and the mountains are left behind and the great Arctic coastal plain takes over. The shoreline becomes flat again, and snow-covered through three-fourths of the year. The eye can hardly see where the snow-

in tundra leaves off and the white-blanketed ice of the Arctic Ocean begins.

It is an unreal land, almost totally dark in winter, almost totally light in summer. Out over the ocean there is nothing, and the hazy mountains are so far to the right hand, there is a feeling of suspension in a monstrous void. The anthropology student will be interested in the Eskimos, the ornithologist in the ever crisscrossing flocks of waterfowl and shore birds, sea birds and lesser fowl. The botanist will marvel at the tiny brave blossoms dotting the tundra and the geologist will wonder at the possible vastness of underlying oil pools recently tapped by the Navy.

You are at Point Barrow, finally, the most northerly settlement under the American flag. The shoreline turns to the east and so continues its ill-marked course along the Arctic Ocean to Can-

ada, not far from the northerly exodus of the waters of the Mackenzie River, greatest in Canada, flowing northward from the wheat lands far to the south.

Because we have chosen to follow around the perimeter of Alaska, from Ketchikan to Barrow, we have only encircled the main portion of Alaska, touching but briefly on its southern extension through the Coastal Mountain Barrier in the vicinity of Anchorage.

Using rough comparison figures again, we found about one-fifth of Alaska embraced in the Coastal Mountain Barrier. We found another fifth of Alaska along the shores of Bering Sea and the Arctic Ocean. The approximate three-fifths of Alaska remaining is the land drained by the great rivers and lying between the south Coastal Mountain Barrier and the broad Brooks Range of the Arctic.

Although Anchorage lies within the



Bethel

Mac's Foto Service, Anchorage



Nome

Wien Alaska Airlines, Photo by Frank Whaley



Kotzebue

Wien Alaska Airlines, Photo by Frank Whaley



Barrow

Wien Alaska Airlines, Photo by Frank Whaley

Coastal Mountain Barrier, and on the sea, the Great Interior may be said to begin here, for in climate and vegetation there is much similarity, and the very breach of the coastal range which gives Anchorage a seaport location also brings its relatively dry Interior weather.

At this point it is well to remind the reader again that we have already said the Great Interior is not to be construed as one vast high plain, but rather a succession of great river valleys and other mountain ranges. There are four major "valleys" which form the principal areas of the interior country.

Let us, so to speak, "stand in the streets of Anchorage facing Fairbanks," 400 miles to the north, to get properly oriented.

Stretching northward and gently away from us on either hand are the valleys of the Susitna (on the left) and

the Matanuska River (on the right). This is the homestead country of Matanuska, Palmer, Talkeetna, and other towns, where vegetables grow to prodigious size, where berry crops are superb, and where various grains mature well.

The great peaks of the Alaska Range sweep from west to north and east again in the tight curve which forms a western and northern boundary for the valley of the Susitna-Matanuska river system. Mt. McKinley, the highest peak on the North American continent, towers over 20,000 feet against the northern sky in the middle of this arc. On the east, a lesser range of mountains, the Talkeetnas, runs in a more or less northerly tangent from the Chugach Mountains of the coastal barrier to join the Alaska Range and divide the Matanuska-Susitna valley system from the next large valley area on your right, the Copper River Valley.

The Copper, heading on the flanks of the Alaska Range to the north, the Talkeetnas to the west, and the Wrangell Mountains to the east, flows in a southerly course to reach the Gulf of Alaska in the "corner" of that ocean body near Cordova. Cordovans hope to see early completion of a highway into this area to replace the railroad once used to bring the fabulous Kennecott Copper Mine ores to tidewater. Residents of the Copper River valley country in towns like Chisana, McCarthy, Tonsina, Copper Center, and others now drive to closest tidewater over the Richardson Highway to Valdez, or over the Glenn Highway to Anchorage.

Back to our orientation lesson again—standing in the streets of Anchorage, facing Fairbanks, 400 miles to the north—we see the valleys of the Matanuska and Susitna (to all practical purposes a single valley system) directly before us,



Fairbanks

Photo by Phil Hoon

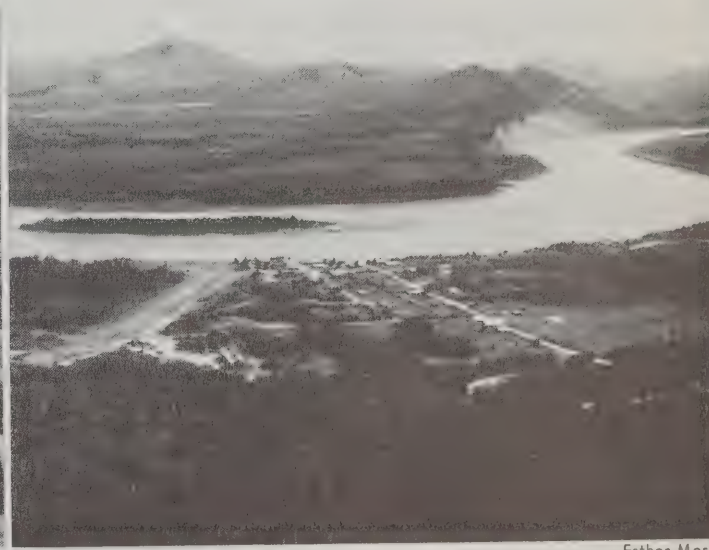


Wien Alaska Airlines, Photo by Frank Whaley
Ft. Yukon



College

University of Alaska Files



Eagle

Esther Merly

while to our right, over the Talkeetna Mountains, lies the Copper River Valley, each vaguely bordered on the north by the Alaska Range and a high tableland.

To our left, behind the curving barrier of the Alaska Range, lies the second largest valley system in Alaska—the valley of the Kuskokwim River. This great river heads on the back side of Mt. McKinley and flows more or less westerly and slightly south behind the Alaska Range, for nearly 500 miles, joining the Bering Sea at Bethel.

With no road connections to other areas, accessible only by air or by riverboat, this not-too-well-publicized region of the Great Interior is nonetheless certain to draw increasing interest. All along its course, where the people of scattered villages mostly draw their economic support from occasional mining operations, the traveler will see a great

variety of country, from the rolling hills of the plateau land in which the river finds its source to the flat delta lands at the Bering Sea mouth.

The few experimental crops that have been planted have done well, and there are frequent stands of spruce and birch. The river itself, usually an opaque green, is "prettier" than its bigger brother Yukon to the north. Streams like the Stony, the Hoholtna, the Hahalitna and the Aniak plunge down from unexplored areas of the back slope of the Alaska Range to join the Kuskokwim. Riverboat traffic between villages along the river gives the effect of "living on a party telephone line," and this, together with frequent airplane service to Anchorage and to Fairbanks, makes living here less isolated.

The Kuskokwim valley is separated from the Yukon valley to the north by a low range known as the Kuskokwim

Mountains. A hundred miles up from the Bering Sea, where these mountains flatten onto the Yukon-Kuskokwim Delta, the Yukon and Kuskokwim Rivers are only a scant fifty miles apart, and a system of sloughs and back rivers makes a water portage simple for small outboard powered craft and canoes.

Here the rivers begin to separate, however, and the farther upstream you progress, the farther they become separated, until on the upper Kuskokwim at the village of McGrath, the Yukon lies over a hundred miles away across the rambling hills of the Iditarod country.

Back to the streets of Anchorage again, you should now be able to visualize the valleys of the Kuskokwim (behind the Alaska Range to your left), the Matanuska and Susitna valley system before you, and the Copper River

valley over beyond the Talkeetnas and the Chugachs on your right. All of these three valley systems have a more or less common head in a highland of Alaska Range peaks and low-lying, interconnecting hills of lesser prominence. Beyond this highland begins the greatest of the Alaskan valley systems, the valley of the Yukon River and its many tributaries.

In general shape, the Yukon drainage system is much like the Coastal Mountain Barrier and the paralleling Alaska Mountain Range. The 2,500-mile-long Yukon River flows northwest out of Canada behind the mountains, curves westerly across the Arctic Circle, then swings southwest and finally west again to Bering Sea.

Not A "Valley"

In actual physical character, however, the entire "Yukon Valley" is not precisely a "valley" in the accepted sense, but a combination of many river valleys and their drainages lying between the Alaska Range and the Brooks Range.

The biggest city of this region and second largest city in Alaska is Fairbanks, lying pretty much in the heart of the region from which the main valleys begin to develop in essentially all directions.

In actuality, Fairbanks lies in the upper reaches of the big Tanana Valley, largest of the several valleys which make up the Yukon Valley system. The country immediately around Fairbanks proper is relatively flat, but just to the north of Fairbanks, the lands gently rise to form the White Mountains and the Crazy Mountains with a general level of four to five thousand feet separating the Tanana Valley from the upper Yukon valley. To the south of Fairbanks, a little less than a hundred miles across the Tanana Valley, the gently rising hills swoop suddenly up to form the backside of the Alaska Range.

To the east of Fairbanks, the Tanana Valley climbs imperceptibly to the border area where the Alaska Highway enters the state. To the west the Tanana Valley stretches a wide and meandering course to join the Yukon River. As it passes the upthrust of Mt. McKinley,

the crowning peak of the Interior uplift, the Tanana River is joined by the southward extending valley of the Kantishna River, which valley in turn practically carries through to the headwaters of the Kuskokwim River valley.

North of Fairbanks, behind the White and the Crazy Mountains, is the second great valley area of the Yukon system, the Fort Yukon—or Upper Yukon Valley.

This valley is bounded on the north by the Brooks Range, on the east by the low divide between Canada and Alaska, and on the west by a juncture of the White Mountains from the south and the Ray Mountains of the Brooks system from the north. Where the Yukon River moves through this juncture point at Rampart, engineers envision a great dam to provide what may well be the largest and farthest north hydroelectric development along the polar rim.

In the valleys of the Tanana and the Upper Yukon, the low rolling hills and benchlands grow fantastic crops of vegetables and almost every important grain. Here, far from the moderating effects of large bodies of water, and with summer daylight hours almost twenty-four hours long, you find the Interior climate of the Minnesota and Canadian Prairies country—hot to near a hundred degrees in the summer, cold to seventy below in the winter, and frequently so dry that placer miners lack water for sluicing.

Good Farm Land

It is good land for the farmer and would be better land if there were more market for the things the farmer can grow. There is a great potential here also in grazing lands—a potential which also hinges on market. And for hundreds of miles in all directions, scattered forests of white and black spruce, larch, birch, aspen and other trees make up an estimated backlog of over three hundred billion board feet of pulp timber for mills of the future.

Back to our orientation point again—"standing in the streets of Anchorage, facing Fairbanks, 400 miles to the north"—you can now visualize the important valleys of the Great Interior—

to your left beyond the mountains, the Kuskokwim—to your right beyond more mountains, the Copper—before you the Matanuska and the Susitna stretching north to the mountains beyond which lies the valley of the Tanana, and beyond that more mountains and the valley of the Upper Yukon.

The Alaska Highway enters Alaska at the head of the Tanana Valley and follows that valley to Fairbanks. A short distance after crossing the border, a road takes off to the west which crosses through the upper Copper River Valley and takes you into the Matanuska Valley and to Anchorage.

Along these few roads and their various extensions, and along the banks of a few river courses beyond the mountains, live the settlers and the pioneers of the Great Interior, their homes and cabins and their lands but tiny scratches in an immense land. A few yards off the highways the wilderness begins and stretches as far as the eye can see to distant ranges of mountains, and beyond those mountains, across other empty valleys to more mountains and more valleys.

If you have followed this "geography" lesson from its beginning you have traveled with us along a coastline far greater than that of all the coasts of the United States proper. You have traveled from North America to Asia, and from the temperate Northwest to the frozen Arctic. You have seen timber lands carpeting thousands of square miles and literally unmarked by axe. You have seen grazing lands from fog shrouded Aleutians to the Arctic Circle, enough farmlands for all the people of the Middle West, great dam sites, black-flowing oil wells, gas wells, ribbons of coal, waters stirred by many fish, and forests, valleys and high places in which reside the greatest game herds left on the North American Continent.

You have seen the fjords and the rainy coast, the dry and rolling Interior, the flat deltas of the great rivers, the Arctic coastal plain and the smoking mountains of the fog enshrouded Aleutian Islands.

We hope we have imparted to you some small feeling of the bigness of this land and some understanding of why we Alaskans love it. ▲

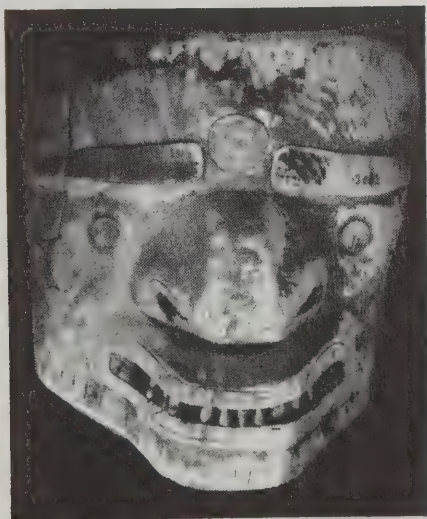


Still to be fully exploited is a vast portion of America that is relatively unknown . . .

ALASKA'S BERING SEA FRONTIER

By **TED BANK II**

Photographs by the author



This death mask was discovered in an ancient Aleut burial cave. The islands, however, were exposed to civilization by Russia before the American Revolution.

BYOND MT. MCKINLEY and the northern metropolis of Anchorage lies the Bering Sea. Almost the size of the Mediterranean, it ebbs and flows on Alaska's western shore from the Aleutians north to Bering Straits, and in so doing washes more miles of coastline than there are along the entire West Coast of the United States. This is America's new western frontier, comprising about one million square miles of sea, mountains, grassy lowlands, and rocky islands. The majority of Alaskans have never seen it. Few Americans ever heard of it. Recent articles on statehood practically ignored it. Yet, this frontier seems destined to play the same important role in Alaska's future development

that the West did in the growth of the United States.

Recently I returned from a four-month trip to the Bering Sea, where I learned some fascinating facts about this much-neglected and little-known part of America's 49th state. Climate, for instance, is not arctic at all, but milder, even in winter, than in many parts of the US. The islands have rich deposits of platinum and lode tin, and oil in great quantity is believed to lie beneath the Bering Sea shelf. Waiting to be exploited are rich gold, silver, copper, and sulfur deposits, as well as oceans of fish and abundant grazing lands. Furthermore, a considerable part of the Bering Sea frontier has never been explored.

To reach the frontier, I boarded Reeve Aleutian Airlines at Anchorage. Our plane, a converted military C-47, was an intriguing combina-



tion of luxury and practicality. Sitting along one side in comfortable, almost plush, upholstered seats were rough-clad construction workers, spruced-up naval officers and their wives, a government biologist in khakis, a party of bear hunters, several tourists, and two Eskimos who were returning to their village after a fling in the big city. Across the aisle, stacked from floor to ceiling, were mail bags, crates, and boxes of every description, tightly bound by ropes snagged to eyelets in the wooden deck.

As we flew westward along the Alaska Peninsula over towering crags of ice and snow, a world of such desolation and ruggedness as to defy description, we were treated to a parade of marching rows of active volcanoes, awesome and memorable, that waded out into the North Pacific as the Aleutian Chain. Oc-

casionally we came close enough to see whiffs of ash-laden steam spring forth, and to stare into a volcano's cinder-coated throat. At other times, thin rivers of ice would appear below—glaciers, creviced and soil-streaked, wending their way between peaks to the sea.

We flew for five hours after leaving Anchorage before arriving at Cold Bay on the far end of the Alaska Peninsula. A more desolate-looking place I can't imagine! Sagging quonset huts and empty gun emplacements, battered and beaten by the elements, were scattered across bleak hillsides, constantly soaked by a cold and dismal fog. The wind whistles mournfully among these ghostly remnants of the War, lending even greater eeriness to an eerie, unreal scene. What a lonely, miserable assignment for the handful of Air Force personnel who live

there and maintain the air strip. But their sergeant only shrugged.

"It ain't so bad," he said. "Best hunting and fishing in the world, and people fly in here all the time."

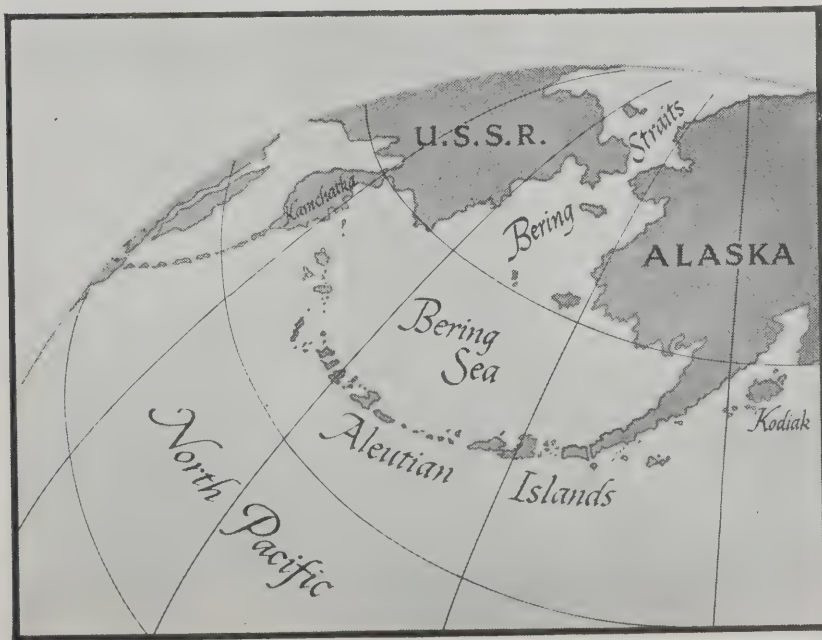
He reminded me of the cheerful old Alaskan sourdough living in a remote area far from any town, who had claimed: "Why, it ain't lonely around here at all. On a clear day I can see Mt. McKinley!"

Cold Bay may not be a mere outpost of civilization for long, however; oil has been discovered in the vicinity. Already one company from the States has filed for a lease to drill. Elsewhere on the Peninsula there are other oil formations that, together with copper, zinc, and sulfur deposits, could turn Cold Bay into a boom town overnight, provided the Government ever relinquishes the land.

Mineral wealth is not the only



Unalaska boasts a Russian-Greek church, but no clergyman. A white Russian priest, who lives in the Pribilof Islands, visits the Aleutian villages every few years. (Below) Map of the Bering Sea frontier shows Russia and Alaska 50 miles apart at nearest point.



thing. Some of the most striking scenery on the North American continent is found on the Alaskan Peninsula. Recently, Katmai crater and its Valley of Ten Thousand Smokes was proclaimed a national park, providing some 2,698,000 acres that are expected to attract increasing numbers of outdoor enthusiasts.

But the greatest inducements to capital investment, which is the key that will unlock the Peninsula's wealth, will probably be the fishing and canning prospects. Fishing has been the Territory's largest single industry (second only to military construction), bringing in about \$100 million each year. Lately, however, it has been on the decline in southeastern Alaska, its former stronghold, and the big fishing concerns are beginning to eye the well-stocked Bering Sea. A few canneries are already established around Bristol Bay. If American interests are going to claim the Bering Sea, however, they'd better hurry, for the Japanese also have their eyes focused here. And they are doing something about it, with US Government help!

Not long ago American newspapers carried stories about the internment of Japanese fishermen by the Russians who caught them venturing too close to Kamchatka. The accounts failed to mention that sim-



Orchids are cheap in the Aleutians. They grow wild there. But while a lady can get all dressed up, the nearest night club is several hundreds of miles away.

ilar fleets were operating just north of the Aleutians as far east as Bristol Bay, or that in 1956 Japan sent 12 motherships and more than 200 catcher boats to the Bering Sea, from which they took 42,701,000 salmon—a total catch of about 85 thousand tons with an estimated value of over \$20 million! An interesting sidelight to this is the fact that aboard some of the vessels were US biologists, guiding and advising the Japanese as members of the International North Pacific Fisheries Commission, formed by Japan, the United States, and Canada. As a result, some Alaskans are fuming over what appears to be US subsidization of Japanese fisheries—ostensibly in the name of research.

Leaving Cold Bay, I continued westward with Reeve Airlines; flying over steep, massive cliffs that rise almost vertically out of the Bering Sea, and above broad, green valleys that sweep inland to meet the snowfields of Shishaldin and Pomgrammi volcanoes on Unimak, the first island in the Aleutian archipelago. Two hours later we bounced to a landing on a narrow strip gouged from the sides of Ballyhoo mountain at Dutch Harbor, costly World War II base that is now abandoned ("dis-established" in military terminology) except for a Reeve Airline station and a Standard Oil Company fuel depot.

Nearby Unalaska village is a fascinating blend of old Russia and modern America. On the front lawn of the Northern Commercial Company store, Alaska's equivalent of Hudson Bay Company in Canada,





Youngsters, like everybody else, wear American-made rubber boots. These have largely replaced mukluks, made by Aleuts from seal intestines, despite the tendency of non-porous rubber to cause foot ailments. (Left) While the Aleut lives mostly on fish, occasionally papa brings home a reindeer.

stands a double brace of old cannons that are said to have been left there by Cossacks who commanded the island more than a hundred years ago. Two-thirds of the 150 inhabitants at Unalaska, many of whom read, write, and speak Russian, are Aleut, a southern variety of Eskimo. Most of them still cling to the Russian Orthodox faith, given them when Russia owned Alaska, and the proudest structure in town is the Orthodox church with its onion-shaped cupola. Unalaska's mayor is Walter Dyakanof, an Aleut.

At a town council meeting I heard Aleuts and whites discussing the future of their community, which lost its herring factories, fox farms, and a growing population during World War II, and to date has not been able to replace them. For years the Northern Commercial Company store has lost money, and the rambling old hotel next to it is used now only by Reeve Airline passengers who are "weathered-in", or by occasional groups of scientists.

Unalaska's citizens are worried but not licked. Depressions have occurred before in Aleutian history. When Russia discovered Alaska in 1741, Unalaska became her major trading center in the North Pacific, with prosperous farms and fishing communities, at a time when the rest of western North America was still an unexplored wilderness. After the US bought the Territory in 1867, however, she promptly abandoned the Bering Sea to cut-throat bands of poachers. When seal herds were threatened with extinction, the gov-

ernment finally instituted the kind of conservative economy that Russia had practiced. There was a brief flurry of public interest, and Unalaska prospered once more as a trading center. Then interest waned. America seemed to forget that the islands even belonged to her. Not so with the Japanese. When World War II exploded, the Aleutians were invaded and occupied by the enemy, and the islands suddenly loomed in the public awareness as being vitally important to our survival. Since the War, however, a fickle America has forgotten them once again. Perhaps Alaskan statehood will be the next reason for a re-awakening—or so the citizens of Unalaska hope.

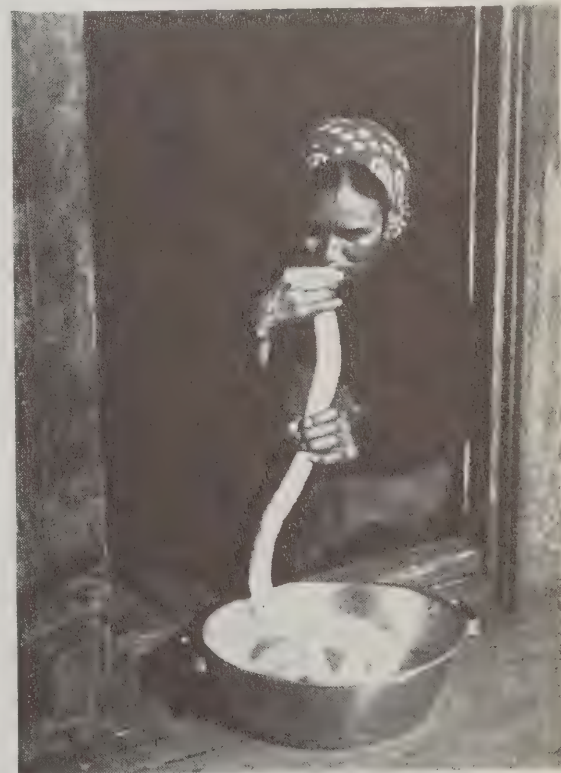
About 30 miles away on the same island is another wartime casualty, the village of Kashega, where one sole inhabitant, an Aleut named George Borenin, waits hopefully for the day when people will return and live in the empty, ghostly houses he watches over. His almost child-like faith typifies in caricature the optimism with which most Aleutian people look to the future.

As I spent more time out there, I began to feel, at least in part, that they might not be too far wrong in this optimism. Most Americans have a strange idea about this region. We have grown used to lumping it with the Arctic as a place fit only for polar bears, although in actual fact the Aleutians lie just a few degrees north of Seattle. They are warmed by the same ocean current that warms the coast of California, and sea level temperatures even in win-

ter seldom fall below 25 degrees Fahrenheit. It gets a lot colder in my home state of Michigan, or in New York, Illinois, or Oregon. In summer the islands enjoy cool breezes and temperatures in the low 70's. Rain and fog are fairly commonplace, but I found the weather no more disagreeable in the Aleutians than it is in Seattle or San Francisco. At the extreme northern part of the Bering Sea, where temperatures are lower, they are still not as low as one might expect, only 3.4 degrees F. average at Nome during the month of January, which is considerably milder than most other places in Alaska, including Anchorage. The Aleutians are richly endowed with sea life and some of the largest sea bird colonies in the world. There are fertile valleys and mountain meadows that are literally covered with wild flowers and, to my surprise, even orchids—a dozen different varieties grow commonly in the lowlands.

It is entirely conceivable that someday the Bering Sea, and particularly the Aleutians, will be a resort area and tourists will flock there to see snow-covered volcanoes, seal rookeries, mountain glaciers, and steaming hot springs.

After washing a seal intestine in salt water, an Aleut woman blows out excess moisture. Intestines are sewn together to make water-repellent boots and coats.



There is no doubt that the environment is a healthy one, as proved at the permanent Naval Base on Adak, where military wives and children have adapted happily to life. Tourism brings about 213,265 visitors to Alaska each year, accounting for \$15 million revenue. Very few, however, head for the Bering Sea. Accommodations there don't suit the comfort-conscious travelers. But as more permanent residents move into the frontier, the facilities will improve and the trend is encouraging; in 1940 some 14,000 people lived in western Alaska—mostly Eskimos. Today there are over 22,000—still a small population—but the white segment has increased significantly.

Ranching will probably attract additional settlers. In the Aleutians wild grasses, growing taller than a man walking through them, recall the prairies of the Canadian and American west a hundred years ago. Sheep graze there now, on three ranches operating on Umnak and Unalaska islands. Most of the 3000 sheep introduced on Umnak two decades ago died during World War II, or were killed by target shooting GI's. Since the war however, the herd has increased to over 5000, and in recent years several thousands lambs were sold in the States. Art Harris, pioneer-owner of the Umnak ranch, faces two major problems: wool must be shipped more than 2000 miles to find a market, and there are few outlets in western Alaska for the sale of mutton. He is optimistic, however, and feels these are temporary drawbacks to be solved when the Bering Sea is opened up for more commerce and settlement. The Aleutian range provides plenty of good grass and water; the winters are mild; yearly mortality figures are low; and the wool is equal to any produced on the best ranges in the States.

Elsewhere in the Aleutians other industries are in the same pre-natal condition, awaiting the day when sufficient capital and better transportation are available to deliver them. Aleutian halibut banks are among the richest in the world, and smelt, herring, shrimp, salmon, and cod thrive in the cold off-shore waters that remain almost unexploited by Americans. Caribou, introduced on some of the islands by the Alaska Native Service as a food-source for the Aleuts, have multiplied but are left to run wild, although farther north on Nunivak and on the mainland, where herding has been practiced, these animals furnish revenue to the Eskimos. Fox farming, once a lucrative business

in the Aleutians, is now virtually abandoned, awaiting the day when women's tastes again run to long-haired furs. The most exciting possibilities, however, are the crab resources. Again, the Japanese are far ahead. Since 1954, they have taken about 1,050,000 king crabs annually from the waters just north of the Aleutian Chain. To Alaskans, this represents an additional \$800,000 a year that is being withdrawn from the Bering Sea by foreign fishermen.

We have not neglected our frontier altogether, however. Since 1867, the Pribilofs have provided us with a revenue from fur sales amounting to about \$102,000,000—or approximately 14 times the price we paid Russia for Alaska. In Kuskokwim Bay an additional \$500,000 is derived annually from platinum deposits. Farther north on the Seward Peninsula \$2 million is being invested in the development of the largest tin mine in North America, with the expectation that the yield will be over 100 tons of lode tin a day, which would make the Seward Peninsula another Bolivia. At nearby Nome, dredges work 24-hour shifts to dig gold out of the gravel beds. Yet these are but a sampling, for less than 0.2 per cent of the western frontier has been mapped adequately enough for geological analysis, leading us to wonder what other wealth will be discovered when the region is more fully explored.

Proper development of the frontier is retarded by Alaska's over-all economic handicaps, which are: small permanent population, inadequate transportation, and a lack of capital. Very few people are willing to do what Art Harris has done—to invest money and their future in the future of a frontier like the Bering Sea. The transient workers, who throng north each summer to earn money quickly, return to the States to spend it. Alaskans claim that restrictive government policies regarding the nine-tenths of the Territory that is in federal ownership has discouraged outside capital, thus retarding industrial development. This is undoubtedly true, and perhaps statehood will, as Alaskans believe, solve at least part of their problem.

WHEN WE finally begin in earnest to exploit the western frontier, I only hope we remember past mistakes with the American Indian and look sympathetically on the plight of Alaska's Eskimos. The Bering Sea was a population center long

before it was discovered by white man. Some 40,000 persons, three-fourths of the entire North American Eskimo population, lived along its shores. In recent years, these people, especially the Aleuts, have dwindled alarmingly, largely because of introduced "civilized" diseases. They also face another problem that we must share with them: just how will they fit into the future economy of their homeland?

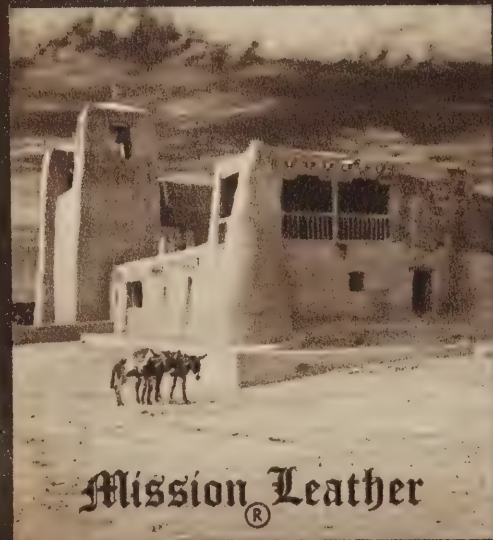
I felt their plight at Atka when I saw Aleuts striving to purchase expensive, imported luxuries from the States, including even canned salmon, while close at hand there was an abundance which they could use freely as their ancestors had done. They desperately wanted to be "like the white man," which to them meant abandoning their old customs. The situation is equally desperate among some of the northern Eskimos who worked at military bases during World War II and earned fabulous salaries. Now that the war boom is over, it is difficult to return to the former, semi-primitive way of life. Fortunately, most Eskimos are adaptive. Furthermore, they are amazingly adept with mechanical things and are marvelously self-reliant. They will find their niche. If we help, many will become leaders in their mixed communities, like the Aleut mayor at Unalaska.

As I stood on the shore at Bering Straits and looked across at Russia's Big Diomedes island, I did not see it as an ominous threat—although it may be that. Rather it appeared like a symbol of a promise for a better future. Here is the backdoor to Siberia, which Russia is developing rapidly. Indeed, it is the backdoor to Russia itself, now bolted and unused, but potentially an important trade-way. In a speculative mood, I wonder if someday cargo and passengers won't pass through these narrow straits, coming from the other side of the world over the polar ice, or under it by submarine transports. Recent nuclear-powered voyages under the Arctic ice would seem to indicate that this is possible. If so, towns on the Bering Sea could become major ports, making Unalaska, with its World War II submarine facilities, the southern capital of a new northern empire. Carrying my speculations even further, I believe that someday a tunnel will span Bering Straits, connecting Alaska with Asia. And who knows, perhaps American tourists will travel this route aboard trains—across the Bering Sea frontier to Siberia.

THE END



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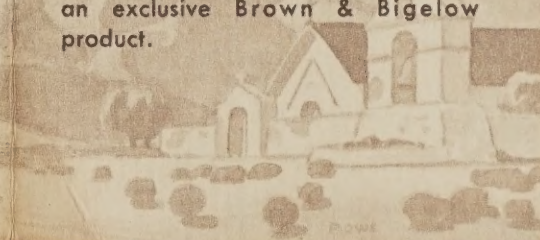


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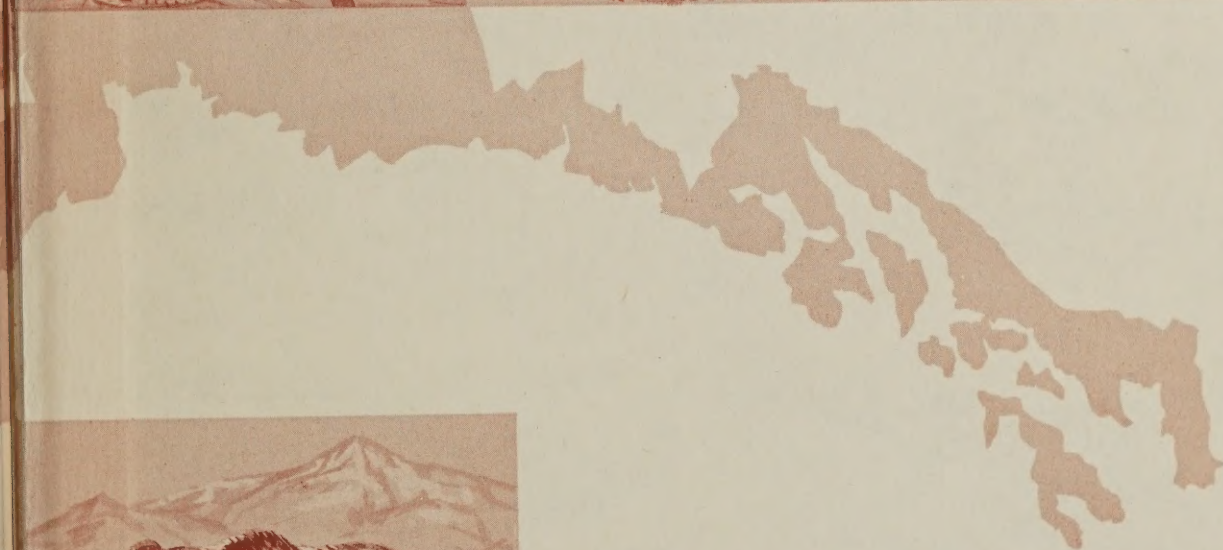
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